

NEW! PRO MOUSE & PRO KEYBOARD REVIEWED

MORE NEWS, MORE REVIEWS

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Macworld



G4 Cube

Apple's amazing new Mac

New iMacs

Funky, flash, and faster

Office 2001 revealed!

Now the Mac's best for business

Removable storage

CD-R, Zip, Orb, DVD-RAM...

Gigabit Ethernet

New G4 Power Macs'
lightning networking





Simon Jary
editor-in-chief

The Cube is great, but it raises the spectre of a new portable device, and I'm worried that we all might be embarrassed again.

The ghost of Newton

Now that all the digital dust has settled on the product announcements of New York's Macworld Expo, it should be time to sit back and contemplate life with the new G4 Cube, Gigabit Ethernet, optical Pro Mouse, and funky new iMac colours. But there's something about Apple's new product line-up that bugs me.

Back in 1997, Apple was in waters so stormy that even George Clooney would have turned his boat round and headed for home. The company was in a right old mess, haemorrhaging millions faster than the Millennium Dome – yet attracting fewer punters.

There were over 15 different models of Macintosh. Chaos reigned when it came to product names. Apple released a desktop Performa 5300 at the same time as a portable PowerBook 5300. 5300 meant nothing to either machine, except that the Performa succeeded the 5200, and the PowerBook replaced the, er, 540.

Apple co-founder Steve Jobs returned as CEO, and quickly cut this model mayhem. Apple's product range was reduced to a simple matrix. From that moment on, Apple was to produce portable and desktop Macs for two markets: consumer and professional.

It was a year or so until all the sections of the product matrix were filled with Macs that Steve was happy with – and which the world would consider buying in any great numbers. The iMac and iBook filled up the desktop and portable segments of the consumer half. Power Macs and PowerBooks the pro.

Steve scrapped the Newton handheld computer, and – after failing to buy the Palm from 3Com – seemed content to ignore the market altogether. Rumours of an Apple-branded handheld running the Palm OS have surfaced, but nothing ever comes of them. The product matrix stays in place.

Until now... After a couple of years of dominance, the product matrix has been split and subdivided by Apple – happy that it now has the momentum to expand its product vision. The new vision isn't exactly clear to anyone yet. The Power Mac G4 Cube (see page 70) is a real design dreamboat, but its market is a strange one – the only common factor between Cube owners will be an understanding bank manager. A Cube and flat-panel Apple Studio Display costs well over £2,000 with VAT. I haven't spent that much on a computer set-up since I bought a Mac LC (12-inch screen, 2MB RAM, 40MB hard disk) and mono LaserWriter LS back in 1990.

While that makes the new £649 entry-level iMac look even more of a bargain, it doesn't really help define this new segment of Apple's strategic matrix.

It also leaves a hole in the matrix as big as the hole in a Cube owner's wallet. And that's what is stopping me sit back and enjoy the delights of Macworld Expo.

Will the new product be a sort of portable Cube – an iCube or CubeBook, perhaps? Apple's current portable Mac range could certainly benefit from some Cube-like minitization. The iBook and PowerBook are fine mobile PCs, but neither could be described as lightweight (6.6lbs and 6.1lbs respectively). Sony's 3lb Vaio laptop steals the prizes when it comes to taking portability seriously. Steve is a big fan of Sony, and has stated publicly that he'd like Apple to be more like the Japanese electronics giant. Maybe not co-incidentally, FireWire-licensee Sony is the only other company out there making a big noise about digital home movies.

A truly lightweight laptop with sharp 12-inch screen and CD drive would fit the bill, but shouldn't the iBook match these features? Three types of portable computer is just as confusing as the Cube when it comes to defining potential markets.

According to stateside sources, Apple is close to completing work on a rather interesting technology. Apparently called InkWell (code-named Rosetta Stone), this technology harks back to the Newton (ahem...) and handwriting recognition. It links with reported Apple plans to create pen-input software that could see the keyboard go the way of the floppy disk.

The first place that InkWell could turn up is in the trackpad of a new (probably G4-powered) PowerBook, code-named Mercury. An InkPad makes up a simple notepad interface for your tablet or trackpad scribbles. An InkBar collapsible toolbar launches programs and replaces standard keyboard functions.

It sounds whizzo, but is also worrying. No one knows how to write with a pen anymore, for starters. I had to do it the other day, and my wrist hurt like an overworked secretary's. Anything that makes the trackpad more intuitive can't be bad, but plugging in a mouse seems to do just fine for me.

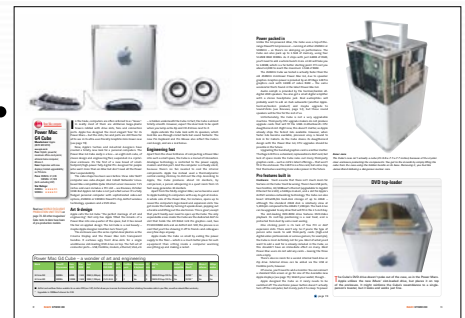
Everyone from Microsoft's Bill Gates to Sun's Scott McNealy have been waving Web-pad Net appliances around at high-profile shows. Will we see Steve do the same at a forthcoming Expo? I'm hoping we don't. I'm sure it would wow the pants off everybody, but I don't want to go back to the days of Apple pre-announcing technologies several years before they have a chance of actually shipping anything. Apple pioneered the move to digital publishing back in the mid-1980s, striking down any old typesetters in its path. Right now, when comfortable laptops are needed more than smart pen tools, Apple should leave InkWell alone. **MW**

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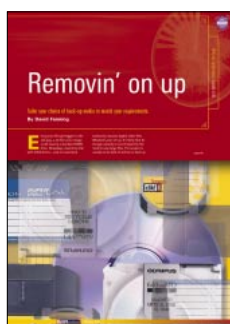


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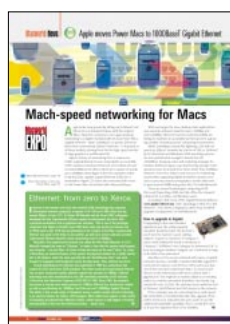
Macworld runs the world's first speed tests on the production-model G4 Cube and the new DV iMacs. Over ten pages, we assess Apple's revamped range of table-top Macs, displays and input devices – as well as looking at Apple's new Pro Mouse and Pro Keyboard.



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Plasma power
The PDS-4214 (above) is one of three new 42-inch Plasmavision screens from Fujitsu

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Your Star Letter wins a Palm IIIc, worth £349

We reward the best reader letter with this highly recommended Palm handheld computer – with colour display and Mac desktop organizer software. Its lithium-ion battery lasts more than two weeks with normal use, and recharges in your Mac-compatible HotSync cradle in minutes. Write to Letters, Macworld, 99 Gray's Inn Road, London WC1X 8UT. Or email letters@macworld.co.uk



Subject: Cube at a price

When the fresh-faced Steve Jobs first conceived of the Mac, he wanted it to be just like a toaster: functional, everyday, reliable (he had obviously never used a British Toaster, or, for that matter, System 7.5), and above all affordable.

Almost 20 years later, he has finally achieved his goal aesthetically speaking with the G4 Cube. But this shiny object of subjective desire is beyond the reach of the market it is aimed for – if indeed there is one.

Since its release the Cube has faced litigation for its supposedly derivative shape (whether or not the sugar industry will file suit remains to be seen).

And many potential users have expressed understandable bewilderment at the fact that while its specifications are situated nicely between iMacs and Power Macs, it's more expensive than both.

Whatever happened to "the computer for the rest of us"? Outside of Apple's excellent iMac line that ideal is in danger of being lost, because Steve Jobs, with a wallet the size of a small European country and private Jet to match, is no longer one of "us".
Milo Bird

Subject: Cube at a price

I'm not sure there's a problem with the iMac's 15-inch screen, as most consumers want something small. What is needed is a 15-inch screen that really beats the pants off Wintel grey boxes – or, increasingly, Wintel funny coloured boxes with flashing lights and knobs on top. What we need is a decent 15-inch flat-panel monitor, so that the whole unit can be fitted in an even smaller space. And the price? Well, we'd

need to see this kind of kit for around the grand mark, wouldn't we? Including VAT, preferably.

Joe Knappett

MW Maybe the G4 Cube and 15-inch Studio Display is for you, Joe (see page 70). Sorry about the price, though... (£2,289 including VAT).

Subject: Go easy on newbies

As my Dad pointed out when I persuaded him to get a "simple-to-use" iMac: "They don't give you a proper manual with this stupid computer". How was he to know there was one online, hidden under the Help menu? If only I'd been there to show him, and take him through the basics.

The Mac shouldn't need a veteran to help a newbie get started. It's a user-friendly PC, targeted on the consumer level at first-time buyers. Whether they see an iMac in a computer store or they turn one on for the first time, it's essential that the encounter has them walking away thinking "Nothing for me but a Mac. I can use one of them."

Apple needs to think of the first-time user. What knowledge will they come with? What will they struggle with? What isn't logical? What will impress them? (Anyone for full-screen interactive QuickTime movie trailers?)

Mac OS X gives Apple a great opportunity to build on its success. It's a chance to build the user-experience from the ground up and do away with illogical interfaces. It's a chance for Apple not to rely on the glories of a past when DOS was its competitor, but to set new standards in Human-Computer Interaction. After all, it's about time Microsoft began stealing ideas again.
Curtis Alcock

Subject: Inspiring column

I read Michael Prochak's 'Remote Access' editorial on the Wild, Wild Web (August 2000) and how the



Star Letter: High Street lows

Apple's 3.5 per cent UK market share is acceptable only if you're scared of heights. But it could really go through the roof if Macs had a serious High Street presence. Then potential buyers could actually get to see, touch and even try them rather than just hear and read about them.

It's crazy that colour-me-ugly PCs are on show everywhere when what really drives their sale is Windows, while Apple's Macs – increasingly design objects – are almost nowhere to be seen. I don't go round with my eyes shut, but of the current Apple crop I've seen in the flesh only a handful of iMacs and two iBooks. I've yet to see a PowerBook or G4 tower – though I once got close on a rare visit to an Apple reseller (tucked conveniently at the back of an industrial estate) to pick up a repair. I asked to see the showroom. But it was locked and no one knew who had the key... so that was that.

Apple needs to hit first-timers who want a serious computer for their new house or their kids or their retirement, and who will rightly insist on seeing what they're being asked to pay £1,000-plus for. Apple needs to flog the Mac in the same arena as Ikea sofas and Clark's shoes. Apple needs to stick Macs right in our faces, then maybe they'll start selling in large enough numbers to get the prices down so they'll sell in even larger numbers. Apple needs to change its slogan from Think Different to Buy Different – because if you're selling something, getting people to think about it isn't quite enough.

Graham Barker

government has seemingly ignored World Human rights issues with regard to privacy on the Net. The editorial was inspiring, informative and most important information for the general public.

I'm inspired now to start a Web petition and rally up some support from the people that simply haven't been told what's going on. Thanks!
Stephen Russell

Subject: Bungie hump

Is Microsoft out to spoil every Mac owner's fun? I don't know about you guys, but I was livid when I heard Microsoft went and nabbed our Bungie (see News, August 2000). Is it not enough that it stole our operating system? Now it feels entitled to steal the one good company that actually churned decent games for the Mac platform only? Remember 'Gnop', anybody? I still play

Marathon on my PowerBook, but now I am forced to look on the Bungie logo with utter disgust at its buy-out from Microsoft. Now we risk being deprived of Halo! I'm really gonna beat up someone from Microsoft in a minute.

Ed Gain

MW Leave off those guys! Not only are they a lot bigger than you, they've just announced a pretty good deal for all Mac gamers (see page 25). And Halo will definitely ship on the Mac. .

Subject: Hate mail

I hated Apple. I hated its mouse, its keyboard, its three PCI slots, its 15-inch iMac monitor, its "no desktop" Mac OS X, but most of all its refusal to listen to us – the people who buy Macs for the love of the damn things – telling them that we hated all this stuff.

Then this Macworld Expo... Now I love them again. I hate Apple.
Ben Bufton

Full working versions of EditDV Unplugged 1.6.1 & 4D 6.0 plus the trial version of Adobe InDesign 1.5 head up this month's CD along with Lara and friends. Vic Lennard guides you through every bit of our 655MB...

MAIN ITEMS ▼



EditDV Unplugged 1.6.1 Full working version!

EditDV Unplugged – the easy-to-use QuickTime nonlinear editing software for all-digital video post production using the DV format. With integrated titling and keyframe animation, EditDV Unplugged provides important, but simple, tools for the digital artist working in desktop video. EditDV Unplugged includes both drag-&-drop and professional three-point video and audio editing, high quality easy-to-use transitions, and multi-coloured, WYSIWYG titling right on your video in a simple three window environment. Also includes Media Cleaner EZ for QuickTime.



Adobe InDesign 1.5

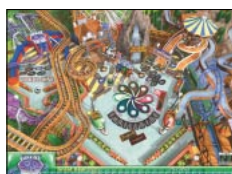
This preview version of Adobe InDesign 1.5 includes nearly all of the main features found in the full version, though it includes only a small sampling of the colour libraries and dictionaries available with the full version. Additionally, there is no Custom Install option; Save, Save As and Save a copy is disabled; and printing and exporting of PDF and EPS files has a banner that reads 'Adobe InDesign'.

Once installed, but before starting the program for the first time, please read the Welcome.PDF document.



Tomb Raider IV

Lara's back in this super playable demo of Tomb Raider: The Last Revelation. See page 16.



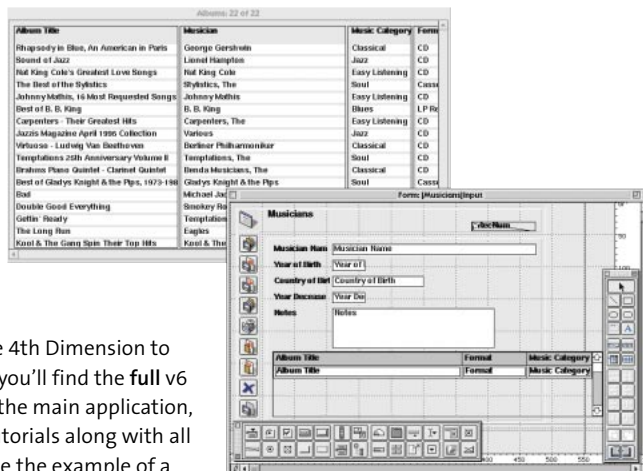
Thrillride Pinball

Playable demo of the latest addition to the 3D Ultra Pinball family.



4D 6.0

Millions of people use 4th Dimension to store vital data. Here you'll find the full v6 package including installers for the main application, extras, sample databases and tutorials along with all documentation. The tutorials use the example of a personal music collection to build a database. Put aside two hours and you will be able to do everything from creating a relational database to publishing the database on the 'Net. Then try the demo of v6.5 and check out the exclusive Macworld offer!



Cover CD SEPTEMBER 2000

INSTALL

Before you start working your way through the software on our CD, go to the System Utilities folder and make sure you install the following:

■ Acrobat Reader+Search 4

Install this version to be able to read many of the on-screen manuals.

■ Stuffit Expander & DropStuff

Versions 5.5, 5.1.2 and 4.5 are included.

■ System tools & ATM Lite

The CD also carries the latest version of InternetConfig and ATM Lite 4.6 (required for Suitcase 9).

■ QuickTime 4

Some programs require QuickTime 4. This can be downloaded from www.apple.com/quicktime/download.

INSIDE MACWORLD

BTV View 4.0.1

Easily view and capture video from any video input source.

GraphicConverter 3.9.1

View, edit and convert almost any graphic file format.

MP3 Rage 2.6

The definitive collection of tools for MP3 enthusiasts.

MVP 1.2.32

For creating, playing back and managing QDesign and MP3 audio.

Nisus Email 1.0.9

Email client to edit, write, send and manage email via any text editor.

Plugin Galaxy 1.0

Set of 20 Photoshop plugins with over 120 basic effects.

Suitcase 9 trial

Cross-platform font manager with integrated font server capabilities.

ShrinkWrap 3.5.1

Creates and mounts exact duplicates of disk images.

outSPOKEN 8.0 demo

Talking interface for blind and visually impaired people.



InspirationPix

Eight royalty-free, high-resolution digital photos.

CD CATALOGUE



Courtesy of Mark Pirri's superb DiskTracker program, Macworld brings you a searchable catalogue of all our CDs from 1997 to 2000 – almost 188,000 files! This will grow month by month to allow you to find any file you want, without wearing out your CD-ROM drive. The latest version of DiskTracker (2.0.2) is also included – don't forget to register if you find our library useful.



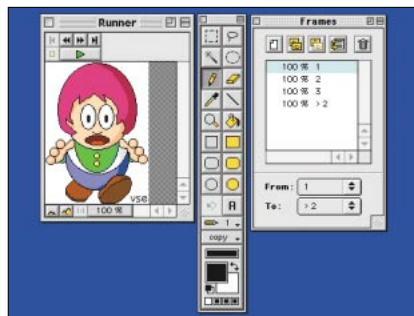
SERIOUS SOFTWARE



Alpha Strip demo

Panopticum Alpha Strip is a unique set of procedures for cutting the images on the alpha channel. With Alpha Strip you can process your image using different geometrical effects that are widely applied in Web design. This software automates them, saving your efforts for the brain work, not the repetitive work. There are six adjustable masks: lines, squares, circles, rings, spirals and waves. Each mask contains a set of parameters adjustable in real-time and masks are saved in a file along with description.

The demo is fully functional, but places a blue grid and the word 'demo' over all results.



VSE Animation Maker

VSE Animation Maker is an easy-to-use GIF animation tool. Create animations for Web sites, such as advertising banners or email buttons. Design your animations and import them into authoring tools like Macromedia Director. Create the actors of a computer game with Animation Maker – there is no easier way to be sure that your animations look smooth.

Use Animation Maker to create short animated cartoons or to make still pictures come alive. It's a powerful and affordable painting program.

The unregistered version is fully functional, but pastes a red 'X' over all frames when saving your animation.



Effects Pack #3

Effects Pack #3 is a set of 10 QuickTime effects that work with QuickTime 3 or greater. You can use them to clean up or spice up your QT movies – like the Invert HSV filter used in our screenshot above. To use it you'll need a PowerPC-based Mac and a video-editing application that supports QT effects such as QuickTime Player Pro from Apple.

Effects Pack #3 is shareware. It is fully functional and you may use it free of charge for 45 days. After that, it will cost \$30 to continue using it. Previous users get a discount – and the full version comes with AltiVec support for faster rendering on G4-equipped Macs.

Cover CD SEPTEMBER 2000

GAMES WORLD



Tomb Raider IV

Enemies lurk at every turn as Lara must overcome ingenious puzzles and the most infernal traps ever devised. The game boasts state-of-the-art graphics: single-skin technology allows a smoother character model with no split elbow and knees, and bump-mapping brings 3D textures to life. The inventory-based management system allows you to control content of inventory without leaving the game world. The demo starts with Lara inside a boxcar on a train. Jump on to the next car, ready to fight a sword-wielding red and black cloaked ninja!

Requires Mac OS 8.1 or later, a 233MHz or faster Power Mac and hardware 3D acceleration (ATI Rage Pro, Voodoo 1, etc).



Thrillride

3D Ultra Pinball Thrillride is a fun-filled pinball arcade romp through a fanciful amusement park for the whole family to enjoy! The full game offers the fun of 15 fun rides: it's the ultimate pinball twist to a theme park adventure with a super-wide main table that 'morphs' into different rides.

Many of the game's features are disabled in this demo, such as the morphing side table where five different rides can appear. There are also two mini-tables only found in the full game and to save space in this demo, the graphics and sound are restricted in quality.

This demo automatically ends when your score reaches or exceeds 2 million.

FAULTY COVER CD-ROM?



• If your cover disc is broken and you want a replacement CD, please contact Kelly Crowley, on 020 7831 9252, or at kelly_crowley@macworld.co.uk.
• If your cover CD doesn't seem to work as it should please check you have read all the instructions on the cover disc pages carefully first. If it still doesn't work, then please email Woody Phillips at woody@macworld.co.uk.



DEMOS & GAMES



3D Spades Deluxe

You'll enjoy the three other demos on our CD. **3D Spades Deluxe 2.2** is the latest card game from Freeverse, while **Grump** is a great new multi-player solitaire game. Then there's **The Home Gene-Splicing Kit 2.0** – a crazy new way to mix DNA!

The Top Ten Shareware Games include the latest versions of a few favourites – **Chocoletters 1.6**, **David's Backgammon 3.8** and **Fuffy 2.1.1**. **Hearts 2.0.2** and **Mike's Cards 1.5.1** will keep card players busy, especially as the latter offers 134 different games! Those who like puzzles and strategy games will enjoy **MazeBall 1.5** and **Sliders**, while action freaks will dive for **MacSnake 1.2** and **Squad-Hex**, a good turn-by-turn adventure game. Finally, don't miss **Dart Board**, a highly playable darts game.

ALSO ON THE CD



COMMS & INTERNET

23 applications including:
AutoShare 4.2
CreativePage 1.6.1
HTML Creator 2.2

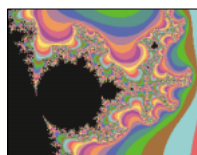
EDUCATION

Four programs including:
Flash Cards 1.0.1
Vocab 1.8

FONTS

Four items including:
FontBuddy 2.0.1
FontViewer 1.2

GRAPHICS



10 items including:
DropImage 2.5
Fractal Domains 1.3.7
Meshwork 1.6.3
Screen Catcher 2.0

ICON UTILITIES

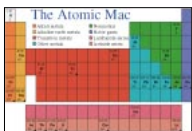
CP IconEdit
Kineticon 1.7.1

INFO



Six items including:
1984 Online issue 26
ATPM 6.07
Extension Overload 5.2
MyMac 63
plus nine utilities for developers

MATHS & SCIENCE



Four programs including:
Stargazer's Delight 4.6e
The Atomic Mac 4.1

NETWORK

MacPopUp 2.0

SCREENSAVERS

FlavorSavers 2.0.2
Matrix Screensaver 1.7.1

SOUND & MUSIC



Five applications including:
audio tools 2.2.1
QuickMP3 1.6

UTILITIES

Nine categories comprising over 60 useful tools for your Mac including:
AddressBook 4.2.3
AutoCat 2.8.1
BTW Edit 4.0.1
Calendar2000 1.3.1
Dumpster 4.0
Euro Convert 2.0
FinderPop 1.8.9

Folder Compare 2.04
iDisk Mounter 1.7
iWrite 1.2
Joliet Volume Access 1.3
Play it Cool 3.42
Tex-Edit Plus 4.0
UtilityDog 1.2
Wapp Pro 2.8

UPDATERS

This month's dedicated updaters folder includes 90MB of patches to bring many popular applications bang up-to-date, including:
Adaptec Jam 2.6
Altivec Plugin
ATM Deluxe 4.6
ATR Deluxe 2.6
Conflict Catcher 8 v807
FlightCheck v3.85
MarkzTools v8.0
MAXpowr 2.0.5
MS Office 98
Norton AntiVirus 5/6 (07/00)
Norton AntiVirus 6.0.2
Norton Utilities 5.0.3
Virex (07/00)

DON'T MISS...



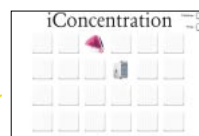
Cool Extras

iConcentration – match the pictures of the various flavours of iMac, iBook and other Macs.

Maya Paint Effects ScreenSaver

SirRantsAloT 2.0.1 – latest

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New-Mac bonanza

Macworld Expo, New York: Busy Apple revamps its entire range of desktop Macs

It started with a new mouse and ended with a totally new type of Macintosh computer. Apple CEO Steve Jobs announced a 100 per cent restructuring of his company's desktop computer line-up during his busy keynote address to New York's Macworld Expo. After the speech, *Macworld* was granted an exclusive interview with Apple product managers, who explained the company's revamped range of Macs.

Mouse replaced

First, Jobs killed off the hated circular mouse that shipped with all iMacs and new-look Power Macs. "Some people think it's the worst mouse in the world. We have many faults, but we do listen," Jobs told the delighted audience.

As well as each being available separately for £39 (excluding VAT), the new buttonless, optical Pro Mouse and full-sized professional Pro Keyboard will become standard across the entire desktop Mac range.

iMovie 2 for FireWire

The entirely new line-up of desktop Macs includes a cube-shaped Power Mac G4, an all-new iMac family and dual-processor Power Mac G4s. All of these new desktops, except the entry-level iMac, come pre-installed with Apple's now-updated iMovie 2 consumer digital video-editing software.

"iMovie captures something in Apple's DNA," explained Jobs. "We're so far ahead, but we're not stopping," he added.

Cube unveiled

The all-new Power Mac G4 Cube gained the most audience applause, as Jobs unveiled Apple's new design masterpiece. Although measuring just eight inches cubed (suspended in a stunning crystal-clear enclosure), the new Mac packs all the performance of a Power Mac G4 – albeit without some of the minitower's upgradability. See right for more details.

iMac colour change

Apple enjoyed an excellent reaction to its other new hardware. The souped-up, four-tier iMac range got the consumer vote, and industry watchers were pleased that Apple had once again lowered the price point for entry-level Macs to just £649 (including VAT).

There are now four standard iMac models: the 350MHz entry-level iMac; 400MHz iMac DV (£799); 450MHz iMac DV+ (£999); and 500MHz iMac DV SE (£1,199) – all inc. VAT.

Out go the "fruity flavours" of the Tangerine, Lime, Strawberry, Blueberry and Grape iMacs, as the latest iMacs feature four new colours. Blueberry is transformed into a deeper Indigo, Strawberry becomes a richer Ruby, and Lime turns into a pale-green Sage. A white-coloured Snow model now joins the Graphite DV SE.

David Moody, Apple's senior director of desktops, talked about the passing of the Tangerine and Grape iMacs. "It's about finding all the most beautiful colours. You must expect change," he told *Macworld*. He called the all-white Snow iMac "monochromatic": "The shade follows the pattern of the shell – you can see that the lower section of the shell is a different colour to all the other iMacs," he pointed out.

Jobs called the new line-up, "a major milestone on the iMac's second birthday".

Power Macs' double punch

Professional designers, used to working with ever-larger image files, cheered as Jobs shared the impressive specifications of the new multiprocessing G4 Power Macs – up till now a secret project, code-named 'Mystic'.

Networking speeds are bumped up from 100Mbps to 1,000Mbps with Apple becoming the first PC maker to build Gigabit Ethernet into its workstations (see page 30).

Apple claims that, when running Adobe Photoshop, the dual-processor 500MHz Power Mac G4 is as fast as the 2GHz Pentium III is expected to be upon its release in 18 months time. The cheapest multiprocessing Mac (packing two 450MHz PowerPC G4 processors) costs £1,749 excluding VAT.

A set of stunning new Apple displays completes the new-products list.

Smash success

Macworld Expo broke attendance records for an East Coast Apple event, attracting 61,250 Apple users from around the world to three days of exhibits, conferences and workshop sessions. A 33 per cent increase on last year's numbers, this makes the Expo the second most well-attended IT event in New York. The QuickTime webcast broke records, too, attracting over 400,000 hits, and delivering the equivalent of 67,000 hours of content. At its peak, more than 4.3 gigabits per second of video were streamed at broadband rates to over 21,000 simultaneous viewers.

Jonny Evans



Apple's Cubist revolution

UK exclusive interview with Apple's senior director of desktops

Although some Apple-watchers were concerned that the company might lack a clear market for its most talked about new product, initial Expo response to the G4 Cube praised its engineering achievement and style. James Druckrey, president of Harman Multimedia, told *Macworld* that "the G4 Cube is the most beautiful industrial design I've ever seen in the computer industry". He believes that the Cube spearheads Apple's attempt to "get a Mac into every living room".

"We're obviously very excited about the prospects for this system. We wanted to take the best of what we know from iMac and Power Mac and distil them into a tiny box," David Moody, Apple's senior director of desktops, told *Macworld* in an exclusive interview after the keynote.

The Cube is a "design tour de force", claims Moody. "We wanted to provide as much simplicity and elegance as we could. We wanted compact, beautiful and quiet – our customers are workers, they want to think, to communicate," he explained.

Cool and quiet

Moody took *Macworld* through the inner workings of Apple's revolutionary convection-based cooling system: "The cool air enters the machine – it's sucked through a gap at the bottom of the enclosure. When you open the machine, you see that the centre of the machine is empty, providing a channel for the air to rise through as it heats up, cooling the machine from the inside." The warm air escapes through a second vent, situated at the top of the Cube, just beside the slot-loading DVD port.

Moody took pains to point out the attention to detail paid in the Cube's design, discussing

the computer's wireless-networking abilities. The Cube features antenna technology known as "Aperture-Coupled Patch Antenna", which was originally designed for spacecraft and military vehicles for global positioning. The antenna feeds on the core are inductively coupled with ceramic patches on the enclosure. They pass the energy to the ceramic patches, which radiate the signal when the Cube is fitted with an AirPort card.

Simple integration

Moody also pointed out the impossibility of reinserting the inner core of the G4 Cube incorrectly. He said: "It's designed so you can't close it unless it's inserted correctly. Of the four possible ways you can put the box in, only one way will work."

He celebrated the Cube's new display connector, which integrates digital and analogue video connectivity with USB and power in one cable. "To integrate, simplify and provide solutions is the approach to all we do," said Moody.

The Cube's British designer Jonathan Ive also emphasized the importance of removing all audio and visual clutter, pointing out the neat way the DVD disc pops in and out of the Cube: "It has a nice element of surprise; a touch of magic".

Industry watchers speculate that, with the introduction of the Cube, Apple is softening up its consumers for the introduction of a sixth product. The product matrix displayed as Jobs introduced the Cube clearly left space for such an item. At the time, this space was filled with an Apple logo. If the Cube is designed to fill the space between the Power Mac G4 and iMac, then could a sixth product be secretly under development at Apple that straddles the divide between the iBook and PowerBook? Apple has increased its research and development budget by 21 per cent in the current financial year.

Apple refuses to discuss unreleased products.

Jonny Evans



"The Cube is, quite possibly, the most beautiful product we've ever produced" – Apple CEO, Steve Jobs.



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Macworld
EXPO



iMovie 2's X appeal

**Macworld
EXPO**

Apple launched its revised iMovie 2 consumer video-editing application at New York's Macworld Expo. The application hosts a variety of improvements and will be shipped as standard with all of Apple's machines – bar the entry-level iMac, which doesn't include the necessary FireWire connections.

Jon Bass, senior product manager for Apple's Video Applications division, talked about what iMovie2 means to the company, in a UK-exclusive interview with *Macworld*.

"I call it an inflection point – a sphere of influence. In the beginning, personal computers ran databases, statistical and word-processing applications. Then, along came desktop publishing – this really expanded on what the computer could do. The Internet has also revolutionized computing. iMovie2 is part of the same shift, opening the doors to more powerful ways to communicate. With these core technologies you can communicate much better than you could in the past," said Bass.

iMovie 2 reviewed, page 50



iMovie 2 sports a more Mac OS X-like interface – "a touch of Aqua", according to Apple CEO Steve Jobs. The clips window now holds unlimited clips for editing, where the original iMovie could hold only nine. These can be drag-&-dropped to the timeline. Users can choose ranges of frames to capture those "perfect moments".

Bass underlined the difference between Apple's more professional Final Cut Pro video-editor and the cut-down iMovie: "iMovie is designed for consumers to create movies with 20 minutes running time or less".

Titles and transition effects can also be drag-&-dropped to the timeline. Another improvement in iMovie2 is its ability to alter font sizes in movie titling, choosing from all the available fonts installed on the Mac. An Effects Palette is also supplied, including sepia tone and black-&-white. Effects can be synced up to the timeline.

The application offers the facility to alter timings: adding slow and fast motion, reverse and more. Some sound-effects come as standard. Audio effects can be locked so they remain in sync with the video – applying video effects will not put audio tracks out of time with the key frame. Results can be exported from iMovie 2 to the camera and then to video tape, or saved as a QuickTime movie for Web transmission.

Plug-ins Apple-only at present

Bass revealed that the effects provided with iMovie 2 are built using a plug-in architecture. "Right now, Apple has not published the APIs for its iMovie 2 plug-in architecture, and does not support third-party plug-ins," he said. There are some small developers who are assembling sets of plug-ins for the application, he said, but these are not supported by Apple.

Since Macworld Expo, Apple has posted an update to iMovie 2, bringing it up to version 2.0.1. The update makes the application more stable, and supports another new release from the company, iMovie Plug-in Pack 2.

Plug-in-Pack 2 contains 11 effects and transitions, including Warp Transitions, Ghost Trails and Radial Transitions. However, the update is at present for North American English Mac OS users only. See *Macworld*, News, August 2000, for more on the slow release of International-English updaters.

iMovie fans who want to upgrade to all the new features of iMovie 2 will need to splash out \$49 (about £35). No UK pricing or availability has yet been announced for the upgrade.

Jonny Evans

MW

Home improvements

Apple announced major technological and usability improvements to its iTools services at Macworld Expo. iTools are available free of charge to all Mac OS 9 users via Apple's Web site.

In a UK exclusive interview, Peter Lowe, director of Mac OS worldwide product marketing, told *Macworld* about these improvements.

"The performance of iDisk has been given a major overhaul. It's faster and more stable," he claimed. All iTools users now get 20MB for free, but Apple has made extra iDisk space available for one US dollar per megabyte per year. Apple offers its customers up to 400MB extra server space for such a fee.

Lowe also hinted that, because of its unique advantage as operating system provider, Apple will be able to offer its iTools customers an even more compelling online experience. As an online services provider, Apple can supercharge the efficiency of its Web-based solutions by optimizing their relationship with the Mac OS installed on users' machines, Lowe claimed.

Apple has also overhauled HomePage, its easy-to-use Web-page creating service designed to help its customers build an online presence quickly and without programming skills.

"Anyone with Internet access can get access to HomePage-hosted QuickTime movies," said Lowe. In a nod to the future of the Mac OS, the interface for HomePage features more Mac OS X-like Aqua design elements. Other new facilities available to Apple's HomePage users include templates for designing Web pages featuring digital photograph albums, movie theatres and family newsletters. The revised service offers improved editing capabilities for drag-&-drop organization of photo albums and the ability to conduct single-click text editing within a Web page.

Other enhancements to Apple's suite of online services include an image library with hundreds of high-resolution images for Web site use, and a new file-sharing template for publishing the contents of an iDisk Public Folder to the Web.

Jonny Evans

MW





No Apple, but plenty of Macs

3D market slowly returning, due to OS X and OpenGL

All aboard for Europe Expo



The London Mac User Group (LMUG) is organizing a trip to the Paris-based Apple Expo Europe, leaving London via Eurostar on the morning of September 15.

The trip costs £160 for LMUG members, and £175 for non-members – including two nights four-star accommodation and return travel on September 17. The Expo runs between September 13-17 at the Porte De Versailles.

Apple Europe's vice president Bruno Didier told *Macworld* how Apple intends the Paris Expo to become a major event for its European customers – on a par with the US-based Macworld Expos.

Major launches

The show floor is already sold out. 240 exhibitors and over 60,000 visitors are expected. Microsoft is expected to launch its Office:mac 2001 suite.

Analysts are convinced that Apple will make key product announcements during the show – possibly the public beta launch of Mac OS X or a new iBook.

To sign up for the Paris trip, or to find further details about LMUG, visit www.lmug.org.uk. MW

Our American cousins have a pointed expression for highlighting the difference between words and actions. You can talk the talk, they say, but can you walk the walk? This is a pertinent question for Apple at Siggraph, the world's premier exhibition and conference for the computer graphics industry.

Much has been made of Alias|Wavefront's commitment to port Maya to Mac OS X (see *Macworld*, July 2000; www.aliaswavefront.com). Maya is the industry's current hot favourite in the 3D-modelling and animation markets, and promised support for OS X is widely seen as a significant boost for the Mac. Apple itself says it is determined to make the Mac the pre-eminent platform for 3D graphics creation. But at this year's Siggraph in New Orleans, Apple once again failed to show.

Fortunately, there were Macs in large numbers on the stands of other exhibitors. And despite Alias|Wavefront's commitment, its thunder was stolen by rival Newtek (www.newtek.com), publisher of Lightwave, which not only demonstrated a 13-Mac renderfarm running on Power Mac G4s, but also offered a sneak peek at Lightwave 6 running under Mac OS X.

Newtek vice-president Brad Peebler told *Macworld* that he expects development of Mac and Windows versions of Lightwave to proceed in parallel. The company has added full support for Navigation Services, context-sensitive menus and drag-&-drop. LightWave 6 also supports the Mac's multiprocessing architecture, and QuickTime support is extensive.

In September, Newtek will ship LightWave 6.1, which adds performance enhancements, an integrated particle system, and an integrated dynamics engine for handling cloth and other soft-body animations.

For Mac OS X, the software takes advantage of double-buffering to improve performance when dragging graphics around the screen, and includes other speed improvements. Peebler says he expects Lightwave for OS X to be ready when Apple ships the new OS. "We'll be finished before they are," he said. "Apple has the bigger job to do."

Mac models

Also of interest to 3D modellers, Autodesk's (www.autodesk.com) marked its tenth birthday with the launch of the latest version of formZ. Version 3.6 incorporates the new LightWorks renderer for radiosity, adding new features like exposure correction, depth of field, and post-processed lens flares. There is also extended support for QuickTime, including the ability to generate QuickTimeVR files.

Curious Labs (www.curiouslabs.com) made its public debut with a new version of Poser. The company was formed from the original developers of Poser and many former Metacreation employees after the latter company sold off its graphics applications.

The latest developments will come in the form of a Poser Pro Pack, which will add multiple views of a scene,



NEW ORLEANS

2000

SIGGRAPH



easier character set-up, motion blur in rendering, and much improved performance.

Poser will also be extendable using plug-ins. Among the most significant will be the ability to share animations, scenes and keyframes between Poser and Lightwave and 3D Studio Max.

Mac-only software was understandably rare, but one package that qualified was Synthetik's Studio Artist (www.synthetik.com), a 2D painting program that won a

Macworld Best of Show award at last year's Macworld Expo in New York. Version 1.5, launched at Siggraph, adds 3D effects, animation controls, and expanded presets for brushes and fabrics.

Card sharp

Also rare were Mac versions of 3D-graphics cards. Although Apple's adoption of the OpenGL standard has encouraged the appearance of more cards for the Mac, professional-level hardware is still in short supply. Good news came in the form of the Proformance 4, a new graphics card from Formac (www.formac.co.uk) that uses two 128-bit Glint R3 processors from 3DLabs. The company expects to ship the card in September for around £500.

Appian Graphics (www.appian.com) demonstrated the Jeronimo 2000 for Macintosh, a £499 AGP card that also supports dual monitors. The card includes two Permedia 3 chips and supports resolutions up to 1,920-x-1,080 pixels on each display.

Apple was not the only Mac no-show at Siggraph. Play (www.play.com), which had planned to demonstrate ElectricImage Universe, the long-awaited upgrade to the ElectricImage Animation System, also failed to attend, prompting wild rumours of the company's demise. The company declined to explain its absence, but said that the new software was proving harder to complete than expected, and that a further announcement would follow within a month or so. MW

Peter Worlock



Paint direct to screen

The hottest piece of hardware at the Siggraph show may have been Wacom's new graphics tablet (www.wacom.com). The PL500 turns a 15-inch colour LCD display into a pressure-sensitive tablet, allowing artists to draw and paint directly onto the screen. The price is an eye-watering \$4,000 (about £2,500), but for those on smaller budgets Wacom also introduced new versions of its Graphire and Intuos tablets in translucent graphite to match the iMac DV and G4 Power Macs – see Reviews, page 59.

Newer gets a G4 in your iMac

Apple hiked the top-end iMac's PowerPC G3 processor speed to 500MHz at the recent Macworld Expo in New York. But there's still no sign of the even zippier G4 chip making it into Apple's iMac sights. At present, Apple uses the G4 processor for its minitower Power Macs and Cubes only.

Newer Technology, however, has stolen a march on its upgrade rivals by launching the iMAXpowr G4 433 upgrade for iMac, the successor to its iMAXpowr G3 466, which will be phased out as the new upgrade is launched at the beginning of September.

The £549 (inc. VAT) upgrade offers a 433MHz G4 processor, with 1MB backside cache, running on a 216MHz cache bus.

In order to keep costs down, the iMac's original chip will have to be sent back to the dealer you buy the upgrade from.

Benchmark tests revealed by Newer claim that the system performance of a 233MHz iMac is almost doubled by the upgrade.

Apple's current entry-level iMac costs £649, running a 350MHz G3 processor.

Newer has also announced the MAXpowr G3-PB 466 upgrade for Wallstreet and Bronze PowerBooks. The PowerBook upgrade is complex – users must first remove their CPU and despatch it to Newer.

The company will then rebuild the CPU, and add a faster microprocessor. The process takes five days, and is "not trivial", according to Newer.

Though this upgrade has been announced by Newer in the US, a spokesman for its UK distributor, AIM Micro, explained that, because of the complexities involved in installation, a UK launch has not yet been finalized.

Newer future

On the company's future, CEO Gerald Minjoot claims that Newer, and financial backers, Tri-M, are "in this for the long-term". "We have a new strategy, new products and operating capital," he promised.

Some analysts had feared that Newer Technology may be close to bankruptcy. Minjoot denied this: "We have now reached the point where we can execute the plans we have put in place," he told *Macworld*.

Newer's co-founder, James Wiebe resigned from Newer in August after 16 years with the firm. He echoed Minjoot's claims, saying that Newer was now stable enough for him to leave.

Newer is developing its SpeedBench software. This offers a visual representation of a Mac's speed and performance from two angles: one represents the computer as it is, the other the improved performance that any given upgrade will deliver.

Newer's cyber strategist, Ed Kleban, said: "Programs like MacBench offer only numbers. SpeedBench goes further than this, and visually shows customers what such speed increases mean." AM Micro 01392 426 473 MW Jonny Evans



"SpeedBench visually shows customers what such upgrade speed increases mean" – Newer's cyber strategist, Ed Kleban



Microsoft shot-in-arm for new Mac games

Following last month's revelation that Microsoft had bought Bungie Software, comes reassuring news regarding the future of Mac gaming. Bungie is now promising that its long-awaited sci-fi warfare game Halo will be released on the Mac platform. More good news emerged during Apple CEO Steve Jobs' keynote speech at Macworld Expo – an independent company tasked with porting even more entertainment titles to the Mac is to be formed with full support from both Microsoft and Apple.

The news was welcomed by Mac gamers, who feared that Bungie would cease Mac-game development following the takeover (see *Macworld*, August, 2000). The company will be headed by Peter Tamte, who until recently was Bungie's executive vice president of publishing. Previously, Tamte founded MacSoft – after which he became Apple's senior director of consumer marketing. Initially, Tamte will be the only employee of the company, and will use independent developers, such as Westlake, to port the games.

At the Expo, Microsoft's vice president of games Ed Fries promised that all Microsoft games would port to the Mac "as soon as possible".

Title line-up

Age of Empires II: The Age of Kings, Links LS 2002 and Flight Simulator will be among the first Microsoft titles to reach the Mac. These titles have sold over ten million licensed units worldwide. Microsoft's DirectPlay networking protocol will not be ported to the Mac, but the new company will aim to find solutions to enable Mac gamers to compete with their PC counterparts.

Tamte said: "We look forward to working with Microsoft to make these and many other forthcoming games available to Mac OS 8, OS 9 and OS X users."

Clent Richardson, Apple's vice president of worldwide developer relations, joined in the euphoria: "We are thrilled



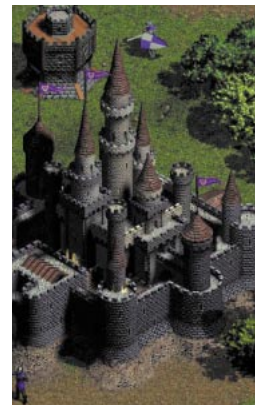
that Microsoft and Bungie are bringing Halo and a host of other top-selling games to the Mac platform."

The decision is a shot in the arm for game development on the Mac platform. Recent events at Microsoft underline the increasing importance in which it holds the Mac market. Its booth and display at Macworld Expo were full of activity, following the company's announcement that Office 2001 would be released in October. Sources close to the European Apple Expo point out that the company has booked substantial space at the event.

The company continues to stress that its goal is to bring "innovative products" to the platform.

Bungie will still become an independent business unit of Microsoft, headquartered at its Redmond campus. Initial reports following the acquisition claimed the group will focus primarily on developing titles for Microsoft's Xbox console system.

Jonny Evans



Games developers and publishers did the business at Macworld Expo. Making its first public appearance, United Developers introduced its works in progress, including Majesty (pictured above right), Fighter Squadron and Sin. All three are already available to PC users, but United's operations manager, Matthew Tremblay told Mac gamers to expect them in early autumn. He has plans for UK gamers too: "We will have a good distribution network set up for Europe, so we are working on this right now."

Ron Dimant of United Developers said: "Everything seems to be in place for a resurgence in sales of Macintosh games software. All the things we wanted to see have happened – Mac sales are great, major strides have been made in the OS to improve things for gamers, and Apple is once again competing, with products that you just want to buy."

MacSoft released BeachHead 2000, its modern warfare hero game, at Macworld Expo.

Games explosion as Apple gets it right

A lone soldier mans a desolate bunker on a wind-swept beach, fighting off wave after wave of enemy attacks from diverse assailants. BeachHead 2000 will be available later this year. MacSoft also announced its acquisition of the rights to publish a variety of Macintosh ports of Hasbro Interactive games, mainly children's titles. These include: Centipede, Risk II, and Pong.

Bumper roll-out

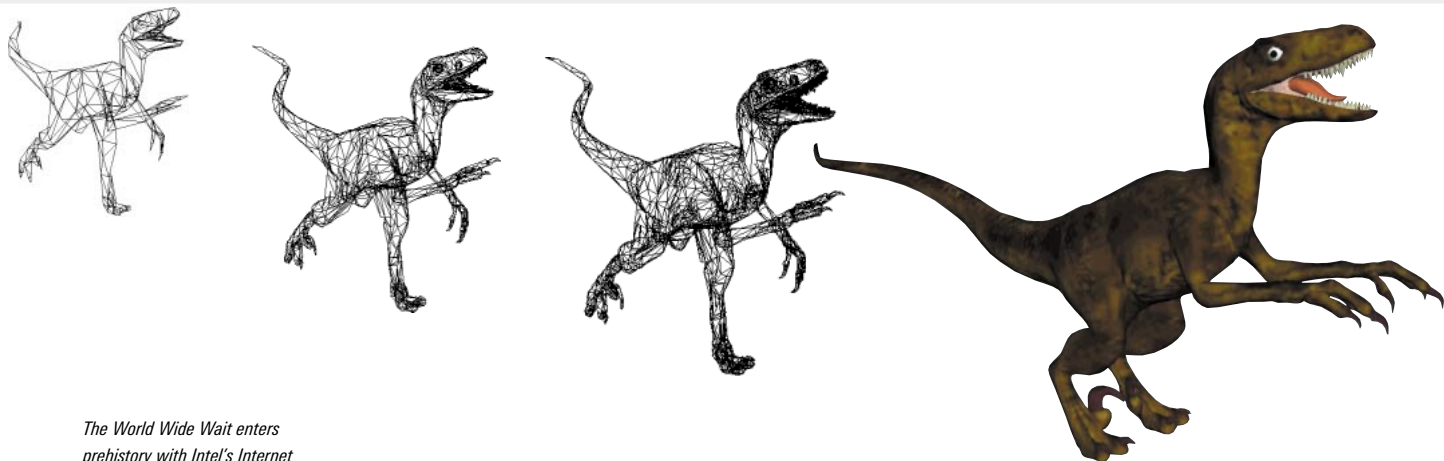
The company revealed the imminent arrival of three games ported to the Mac by Westlake Interactive: Wheel of Fortune, Jeopardy and Monopoly Casino. Ending its marathon series of announcements at the show, MacSoft said future releases would include Rainbow Six: Rogue Spear (available November), and Vampire: The Masquerade. Driver, Worms and Armageddon

are all set for US release this month. Blizzard released Diablo II at the show, to a tremendous response. Already a million-seller on the PC, all available stocks sold out during the show. Blizzard announced that Warcraft III would ship at the end of 2001.

Aspyr Media released two more Westlake Interactive ports: the long-awaited Sims and much-desired Deus Ex. Deus Ex is based on the Unreal Tournament engine, set in a near-future world of cyberpunk technologies and conspiracy theories. It pits the player against elite groups bent on global domination.

Reports hinted at a simultaneous Mac and Windows release date for Simon & Schusters' Star Trek Deep Space Nine: The Fallen. GraphSim plans to release a multiplayer version of Baldur's Gate for the Mac.

MW



The World Wide Wait enters prehistory with Intel's Internet 3D rendering solution. A single reference model (pictured right) is downloaded for each image. The animation image-data arrives as a small-size wire frame, the size of which is determined by the end-user's processor and connection speed. This is rendered by the end-user's machine, using Intel's on-board software – taking data from the original reference image. The three wire reference images pictured here feature 763, 4173, and 11,766 faces respectively.

Macromedia's 3D Web push

In previous years, the Siggraph computer-graphics show has been marked by hot technologies in 3D modelling and animation. This year it was the turn of 3D for the Web, as a host of companies – led by Macromedia and Intel – announced alliances in the Web market.

By sheer weight of marketing clout, the biggest news was the joint announcement from Macromedia and Intel that they have developed a 3D streaming technology to be delivered through a future version of Macromedia's

Shockwave Player. Although the 3D format was developed by Intel, both companies promised that Macintosh users will be able to view and author its content.

While technical details were thin, the companies are counting on the installed base of Shockwave players (around 140 million worldwide and rising) to create a ubiquitous 3D solution on the Web.

Intel's 3D technology, which adds less than 500K to the Shockwave Player in a new rendering engine, is designed to seamlessly scale a model's polygon count to the available bandwidth (see above). The rendering technology also allows for particle effects such as smoke and fire, as well as a cartoon-rendering option.

Adding to the weight of the announcement, the Intel-Macromedia alliance drew support from the biggest names in the 3D industry. Alias|Wavefront, Discreet Logic, publisher of 3D Studio Max, and SoftImage will all support the new format in their programs. Alias|Wavefront has announced it will bring its 3D Maya software to Mac OS X.

This alliance poses a substantial threat to Metastream, the 3D Web technology developed by Metacreation, which recently sold off its existing graphics applications to focus on its Web software.

Metastream 3 is arguably the most advanced of the Web 3D technologies. Although there is no Mac version of the Metastream 3 browser plug-in yet, one is said to be imminent. Aimed at e-commerce, Metastream is already used by companies such as Nike and Sony to create interactive 3D models of products at online stores.

3D Web standards battle

With its installed base of Shockwave users, Macromedia is now in competition with Adobe, which agreed to add Metastream export functions to its graphics software packages. Metastream has a number of other major names in its corner, including CuriousLabs, the new publishers of Poser.

Companies already offering 3D alternatives include Pulse Entertainment, Cycore and Hypercosm. Meanwhile, the Web3D Consortium is developing a streaming-3D standard, X3D, based on Virtual Reality Markup Language (VRML). Even against the competition, both Macromedia and Intel believe that, with their 3D system's intelligent conservation of bandwidth, Internet 3D could take a substantial share of the 3D market.

MW

Peter Worlock, Jonny Evans

Flash 5 now supports all



Macromedia has unveiled the latest version of its vector-animation system. Flash 5 will feature a unified interface for Macromedia's Web-publishing applications, as well as introducing bézier-editing tools, native FreeHand import, and enhanced scripting capabilities.

Macromedia's Eric Wittman, senior product manager for Flash, told *Macworld*: "We want to enable Web developers to create more of their interactive content within the application – we are tracking how content is designed, managed and positioned for the Web."

Macromedia wants to encourage new generations of Web designers to use its authoring environment, and has introduced a set of professional features (Expert) into its application, alongside a Normal mode that is powerful, yet easier to grasp for Flash beginners. Macromedia lets designers choose from Flash, Fireworks, FreeHand, Illustrator or Photoshop default keyboard-shortcuts, or customize their own.

Vector bézier-drawing tools also appear, with new pen and drawing tools identical in use to FreeHand. Software-based anti-aliasing has also been spruced up, with a medium-quality mode added for the first time. MP3 support in the application has been improved, and a new Movie Explorer introduced that lets developers view elements of a Flash movie in a customizable, directory-tree format, similar to the Mac OS list view.

The ability to import FreeHand files means that developers can make use of work constructed in any program that exports to a FreeHand file format. Digital creatives can save time, creating storyboards in FreeHand for clients, and moving these files to Flash once a project gets approved.

Flash 5, shipping in late September, costs £259 (ex. VAT); with upgrades from £99. The free Player 5 should be available in late August.

Macromedia is aiming to get Flash content onto other platforms, Web pads, handhelds, WAP phones and other Internet-ready devices. To underline the company's commitment to the task, *Macworld* was shown a complex animation in full colour on a handheld device.

■ Read our Flash 5 review, next issue.



Apple 'pulls Radeon' from MP Macs



After the Cube and the merits of the Snow-coloured iMac DV SE, the hottest topic on New York's Macworld Expo show floor concerned the delicate love/hate balance between Apple CEO Steve Jobs and his third-party partners. In particular, gossip about Steve and ATI Technologies, Apple's largest graphics product supplier, suggested a rift as wide as the Hudson River had opened up hours prior to Jobs' keynote speech.

ATI and Apple are reportedly still arguing over an incident two days before the Expo keynote, in which ATI released information about Apple's new Mac models *before* they were officially announced. Apple is ultra-secretive about future products and Expo announcements, and so was enraged by this pre-emptive press strike by one of its largest partners. On the Monday before the Wednesday's keynote, a press statement was released by ATI through Business Wire Trade Show Services. ATI stated that

its Radeon processor would be featured in three new Macintosh models to be announced at the show.

"In a keynote, wait for Apple to announce three new systems with ATI graphics in them. One will be an iMac with the Rage 4XL chip, the remaining two are Power Macs which will ship with Rage 128 Pro standard and Radeon," ATI boasted in the statement.

Sources report that Jobs was furious about the leak, and took immediate action against the recalcitrant ATI.

"Steve was beside himself," one executive close to the issue, who asked not to be named, said. "Steve has been so careful to hide any details – even the smallest of details, such as the number of new products to be announced. Something like this really can ruin things".

An unnamed ATI source said. "Jobs was so upset, he wouldn't even directly talk to anyone at ATI. Everyone talked through mediators, and that made the whole thing an even bigger mess."

Jobs ordered all ATI's Radeon boards be pulled from Macs in Apple's booth, and cut any mention of ATI products from his keynote address. An ATI demonstration of the new Radeon graphics chip was supposed to have taken place during the keynote.

It is believed that the iMac DV SE and the two multiprocessing Power Macs would have benefited from the upgraded ATI video cards.

A Pricing and Configuration Reference Card being used by Apple-badged employees in the company's booth showed that, while Apple was originally planning to offer the ATI Radeon graphics card as an "Option available at the Online Apple Store", its mention was hand-scratched out.

When asked why the ATI product was deleted, an Apple employee simply said, "Why do you think?"

ATI sources played down the incident, saying that, while it was to have shown the Radeon card in limited quantities in Apple products at Expo, the final product is not yet ready for release. Actual production of the card is said to be somewhat behind schedule. In addition, the products software drivers are still in beta testing.

The affair couldn't come at a worse time for ATI as -pressure from two other graphics card makers to become Apple's preferred graphics standard, or at least build-to-order options through the online AppleStore, is being stepped up. ATI supplies Apple with its graphics cards for all existing Macintosh models.

The Canada-based graphics company has been criticized recently for trailing its rivals in new innovations and its biggest competitors, 3dfx Interactive and Nvidia, are either shipping new products or have announced plans for Mac support later this year.

Market analysts recently quoted by Bloomberg News speculated that ATI could lose some of its Mac business to Nvidia, prompting ATI to issue a July 11 press release stating that "its long-standing business relationship with Apple Computer Inc. remains strong and is a core aspect of ATI's business".

Neither Apple nor ATI would comment officially. **MW**
MacCentral's Brad Gibson contributed to this report.

Radeon watches brighter

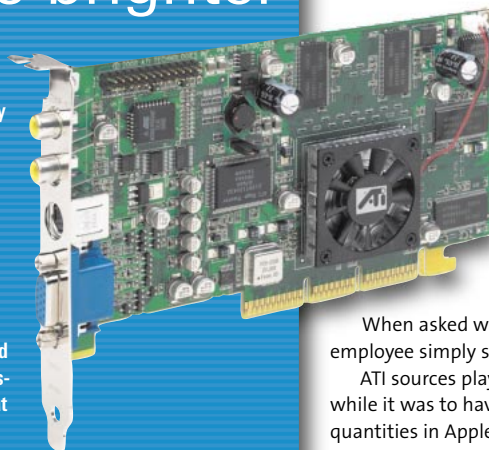
ATI's Radeon graphics processing unit (GPU) is an advanced 3D-graphics acceleration board for either AGP2x or PCI-based Macs. Before the prematurely released press release hit Steve Jobs' fan at Macworld Expo, Radeon was to have replaced the ATI Rage 128 Pro in the dual-processor G4 Power Macs. Now, its future is as a separately sold third-party card.

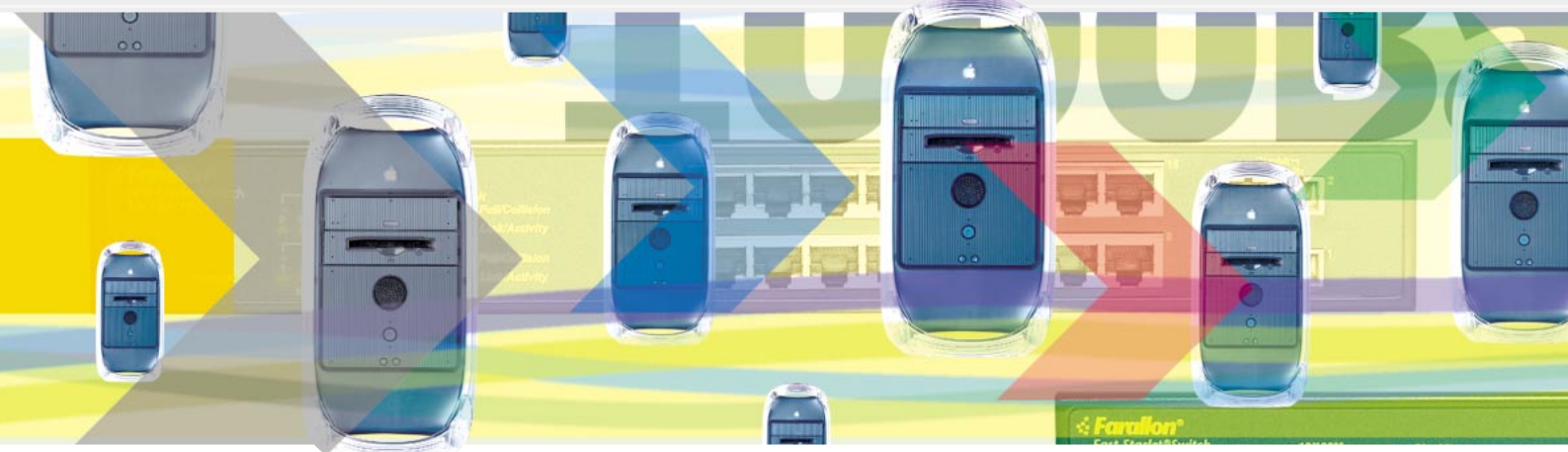
Radeon is designed to offer near photo-quality realism, with smooth, realistic movement, reflections and textures. It carries 32MB of on-board memory and a set of advanced 3D capabilities built on ATI's Charisma Engine. The Charisma Engine is a transform, clipping and lighting unit, which renders the polygons (creating realistic scenes from the basic building blocks of 3D data) that make a 3D image on behalf of the CPU. ATI claims that, with Radeon, gamers and designers will no longer have to accept the limits of their processor speed when it comes to 3D performance. The Charisma Engine is its own workhorse, processing up to 30 million triangles per second. ATI's Pixel Tapestry architecture is also ready to rip. ATI claims this delivers the fastest 32-bit colour-rendering performance available, processing up to three textures per pixel in a single clock-cycle, enabling impressive representations of complex graphics elements and textures like metal or wood. Complex lighting effects are displayed – Radeon is able to handle detailed reflections in pools or mirrors.

The tech-wizardry doesn't stop there. To avoid clogging up the on-board memory banks, ATI has developed Hyper-Z, a technology that decreases the amount of data sent to the frame buffer, easing memory bandwidth limitations, and boosting performance. The board also delivers TV-out facilities based on ATI's Rage Theatre chip, which supports S- and Composite video outputs to conventional TVs.

The 3D environment benefits from specular mirror-like highlights, accurate texture mapping, fog and texture effects. The board can handle reflections, spheres, shadows, and spotlights – all with full-scene anti-aliasing.

The AGP2x Radeon Mac Edition board begins to ship in September, with the PCI version expected in the autumn. The PCI board is compatible with both 33MHz and 66MHz PCI slots. UK pricing was unavailable as we went to press.
ATI, 01628 533 115





Mach-speed networking for Macs

Macworld
EXPO

Apple broke new ground by rolling out 100BaseT Fast Ethernet as a standard feature with the original iMacs. Now, the company is once again pushing networking to a higher standard with its new Power Macs. Gigabit Ethernet – that's 1000BaseT, or speeds 100 times faster than conventional 10BaseT ethernet – is standard on all these models, priming them for the high-speed transfer of large graphics or multimedia files.

Apple's history of networking firsts is impressive: 1984's original Macintosh was networkable via LocalTalk; 1993's Quadras introduced ethernet at 10 million bits per second (10Mbps); the iMac's ethernet is capable of speeds up to 100Mbps. Now, Apple is the first computer maker to build 1Gbps-capable Gigabit Ethernet (GbE) into a workstation. Apple CEO Steve Jobs announced the move to GbE Power Mac G4s at New York's Macworld Expo.

With ever-larger file sizes, desktop-video applications and corporate intranets now the norm, 10Mbps and even 100Mbps ethernet local area networks (LANs) are failing to maintain an acceptable performance for a growing number of desktop/server computing environments.

While 1,000Mbps sounds like lightning, GbE will not speed-up 10BaseT networks by a factor of 100, or 100BaseT by 10. Macintosh and Windows 2000 operating systems are not sophisticated enough to handle the full 1,000Mbps. European sales and marketing manager for Farallon, Anthony Fulgoni, says that testing averages GbE's speed-increase at around three times faster than 100Mbps ethernet. "Even this 300 per cent increase in networking speed makes upgrading highly desirable to power users such as pre-press houses and graphics studios that have to push around 50MB and greater files," he told *Macworld*.

There are several technologies competing to fill this need (Token Ring, ATM), but GbE offers the cheapest solution for most Mac and Windows users.

According to Bob Grow of the Gigabit Ethernet Alliance (www.gigabit-ethernet.org), GbE's advantage is that "it is still ethernet". "This allows a migration rather than a fork-lift upgrade of equipment," he told *Macworld*.

How to upgrade to Gigabit

If upgrading to the new standard appeals to you, the outlay required shouldn't break the bank. The first item you'll need to examine is your cabling. 10BaseT requires a minimum of Category 3 cable, while 100BaseTX needs a minimum of Category 5. 1000BaseT uses Category 5e (enhanced Cat. 5), but, according to Farallon's Fulgoni, cat. 5 will work as long as its RJ45 is four-pair wired.

Any Macs or PCs on your network will require a Gigabit network interface card (NIC; Farallon's NetLINE Gigabit PCI Card, pictured above, costs £569 ex. VAT), unless you buy one of the new GbE-ready Power Macs. To connect GbE devices to the network you will need a switch with a gigabit port. This might be a module added to an existing switch or a whole new switch (Farallon's Fast Starlet Gig Switch/4T costs £1,054). The switches then handle the mix of Ethernet, Fast Ethernet and GbE devices in the network.

If the computer you are connecting has a multi-speed NIC (100/1000 or 10/100/1000) then the upgrade of the switch need occur only when the user wants to use the additional bandwidth capability. This is exactly the same as it was for migration from 10 to 100Mbps.



Ethernet: from zero to Xerox

Ethernet is the number-one local area network (LAN) technology that transmits information between computers at speeds of 10, 100 and 1,000 million bits per second (Mbps). In late 1972, Dr Robert M Metcalfe and his Xerox PARC colleagues developed the first Experimental Ethernet system to interconnect the Xerox Alto, a personal workstation with a graphical user interface. This is one of the prototype computers that Apple co-founder (now CEO) Steve Jobs saw during his famous visit to PARC back in late 1979 that led ultimately to the creation of the Mac. Experimental Ethernet was used to link Altos to one another, as well as to servers and laser printers. Experimental Ethernet boasted a data transmission rate of 2.94Mbps.

Metcalfe's first experimental network was called the Alto Aloha Network. In 1973 Metcalfe changed the name to "Ethernet," to make it clear that the system could support any computer – not just Altos. He chose to base the name on the word "ether" as a way of describing an essential feature of the system: the physical medium (ie, a cable) carries bits to all stations, much the same way that the old "luminiferous ether" was once thought to propagate electromagnetic waves through space. Thus, ethernet was born.

Formal specifications for ethernet were published in 1980 by a consortium that created the DEC-Intel-Xerox (DIX) standard. This effort turned the Experimental Ethernet into an open, production-quality ethernet system that operated at 10Mbps. Ethernet technology was then standardized by the LAN standards committee of the Institute of Electrical and Electronics Engineers (IEEE 802) in 1985. Since 1985, the standard has grown to include new media systems for 10Mbps Ethernet (eg, twisted-pair media), as well as specifications for 100Mbps Fast Ethernet and 1,000Mbps Gigabit Ethernet. The ability to link a wide range of computers using a vendor-neutral network technology is an essential feature for today's LAN managers. Most LANs must support a wide variety of computers purchased from different vendors, which requires a high degree of network interoperability of the sort that ethernet provides. – Simon Jary

MW

More Macworld Expo, page 18

More information on the new Power Macs, page 78



Voodoo 5's Mac magic

3dfx is about to release the Voodoo5 5500 graphics accelerator for the Mac – the first time the company has offered officially supported Mac drivers for its cards. 3dfx enjoys an excellent reputation among Windows-based 3D enthusiasts. The Voodoo3, 3dfx's previous board were unsupported on the Mac, though many Apple users chose to download unsupported Mac beta drivers from 3dfx's Web site. 3D gamers and designers have been crying out for officially supported cards from the company, with some expressing reservations about the solutions available from ATI, who supplies all the pre-installed cards in Apple's computers.

3dfx is campaigning for Apple to open up the graphics upgrade marketplace. 3dfx's Bryan Speece observes: "We don't feel that we have a level playing field (in the 3D accelerator market). Users are economically paralysed, they might choose to discard their ATI card in favour of a more powerful solution, but they have already paid for the card when they purchased their computer."

Power users want an AGP version of the Voodoo 5 board. But Speece says this is unlikely, unless Apple makes a U-turn and offers a choice of board as a build-to-order option, or permits customers to buy Apple's products without a graphics card pre-installed.

3dfx's new Voodoo5 features two 166MHz VSA-100 graphics processors, VGA and DVI connectors and 64MB of onboard RAM. The VSA-100s use 3dfx's Scan Line Interleave (SLI) feature to work together. Tasks are split between the processors – one rendering odd lines, the other even ones. It supports 2D resolutions up to 2,048-x-1,536 pixels in 32-bit colour, and offers T-Buffer cinematic effects, including motion blur, programmable depth-of-field, soft shadows and soft reflections.

3dfx has its support, with many developers agreeing with Westlake Interactive's president, Mark Adams, who said: "3dfx has the best developer support program of anyone we work with." 3dfx hosted a well-attended but unofficial gamers pavilion at Macworld Expo, hosting titles from many developers on its souped-up machines.

It's a deliberate 3dfx strategy, Speece says: "We absolutely are building the 3D market for Apple, which is clearly making a grab for some of Silicon Graphics' high-end design space. Apple and its customers need to have the best 3D processing technologies available in order to be taken seriously."

David Read, Jonny Evans

**Macworld
EXPO**



Fast demo

Macworld Expo attendees were shown how much faster their Mac graphics – here, the *Star Wars: Racer* game looking great on an Apple Cinema Display – would be with a Voodoo 5 5500 installed.

Office 2001 boxed up

Microsoft will ship its forthcoming Office 2001 Macintosh Edition in a reusable plastic CD case that will hold an extra five discs to "eliminate the wastage of most other products". According to Microsoft's Macintosh Business Unit General Manager Kevin Browne Office 2001's packaging is inspired by the industrial design of Apple's post-iMac hardware.

Browne hopes that this inspiration will help attract Mac users to the upgraded suite of business applications. "We hope users have as much fun using this product as we had making it," he explained at an international press conference during New York's Macworld Expo.

Microsoft is placing special emphasis on the Mac-ness of Office 2001. Its own research revealed that many Macintosh users did not realize that Microsoft is still supporting the Mac. So Microsoft has pushed the "Mac" part of the product's name is given special focus in all packaging.

Office 2001 contains many features that are not available in the Windows-based Office 2000 applications. Browne claims that, with its many Mac-only features, Office 2001 is the best business suite on any computing platform.

The innovative product packaging means that Office 2001 will not include a manual. Browne explained that "to allow changes, additions and adaptations over time" Office 2001 will include all of its tutorials and Help within the product and on Microsoft's Web site.

Office 2001 requires at least a PowerPC processor and Mac OS 8.1, 32MB RAM and 160MB hard-disk space. But Browne recommends users have a system boasting a G3 chip, OS 8.5 and 64MB of memory.

MW

Office 2001 previewed, pages 81-86



Rewind your Mac

Power On Software has unveiled Rewind, a utility to help Mac users recover from file overwrites, software conflicts, and other disasters. The company also released Now Up-to-Date & Contact Version 3.9.2.

Rewind monitors system activity, storing info about modified data in a hidden file on the hard drive. The file is like a partition, but no drive reformatting is required. Rewind can restore the Mac to its previous state, referring to information in the partition when problems occur.

Rewind can save accidentally deleted or overwritten files, undo the damage done by data or system file corruption, and help beat off viruses. Users can rewind to the instant before the problem occurred. If you install a new version of the Mac OS, Rewind can even go back to the previous version. If you back your drive up to a different computer, Rewind will work on the backup machine.

It's not completely bulletproof – a determined user could corrupt the Rewind partition, and it cannot recover data lost through reformatting, because that removes the hidden file.

Rewind consists of a system extension and the Rewind application. It offers options for which parts of the system are restored. In addition to rewinding the whole system, you can exclude all documents, applications, preferences folders or fonts, preserving changes made since the rewind point.

Storage requirements vary, depending on the amount of data on the drive and the days you want the utility to remember. Power On claims that to back up a 20GB drive, remembering ten days, Rewind needs 2GB.

Rewind will cost \$89 (£59) online from www.poweronsoftware.com. Stephen Beale





Media 100i goes Web interactive

Media 100 has introduced Media 100i, a new family of innovative digital video-editing products aimed at Web-based streaming video. Innovative interactive features embed instructions that promise to revolutionize the way people use the Web. Rob Pickering, UK MD of Media 100, told *Macworld*: "This is one of those very rare steps forward, like Macromedia's launch of Flash. Video over Internet protocol is the way forward."

The system offers a powerful new twist in Web-video – interactive video. Built on Media 100's EventStream technology, DV designers can embed interactive, multi-dimensional instructions directly into streaming-media programs. Instructions can trigger visual content, including graphics, Flash animations and Java applications. Such "Events" can be synched up to the streaming video on the site. Users get to create hot spots and links to URLs.

E-commerce opportunities

Carl Anhder, Media 100i product manager, said: "Users can click on Tom Cruise's sunglasses and buy them online." The streaming movie becomes central to the whole Web experience. Developers can even add "hot spots" to their movies, triggering certain, pre-ordained events. Other powerful features include the ability to support graphics tracks separate from the video track, so static graphic overlays can be compressed independently from the video.

All the products offer video-editing and effects software, with a PCI card for capturing digital-video streams. The high-end versions come with a second card,



enabling dual-stream capabilities – so creators can switch from one to the other in real time.

A new video-effects architecture, iFX, allows Media 100i users to access Artel's video-effects plug-ins directly. The Media 100i software package also includes Artel's Graffiti, character-generation software designed for creation of titles and credits.

The two high-end systems – the £8,995 i/xs and £12,495 i/xr – also provide for real-time YUV colour-correction, allowing producers to manipulate colours in the video's native format instead of RGB.

The entry-level £2,495 i/leDV provides basic video-editing functions. The £5,495 i/lx adds import and export of Edit Decision Lists – essentially scripts for performing digital-video editing operations – and boosts the maximum frame size to 300K.

MW

New Palm models

Palm has announced its autumn product line-up, featuring the inexpensive (£130) m100 handheld and the special-edition Claudia Schiffer Palm Vx (we kid you not!).

The durable Palm m100 features a new design with a rounder shape and hinged flip cover, which also houses the stylus (see two top pics, right). A new NotePad application can capture hand-written notes, so users can jot 'sticky-notes' on-screen. It also comes with an alarm clock (with snooze) and a HotSync cable to connect the unit to a Mac for data sharing. The clock function works even when the Palm is off, visible through a window on the flip cover.

Other features include an AddressBook, To-do List, MemoPad and infrared beaming options.

It's compatible with all current Palm OS applications, and includes 2MB of memory for additional apps and storage.

With a nod to the consumer friendly, customizable face of modern computing, initiated by Apple's iMac, the m100 offers a range of coloured faceplates, similar in design and function to those available for Nokia's mobile phones. The initial range will include Silver Mist, Green Mist, Blue Mist, Pacific Blue and Ruby Pearl. The plates cost £19 each. A grey faceplate comes as standard.

Palm's senior director of product marketing, John Cook, said Palm is aiming the product at first-time buyers, students and first jobbers.

For durability, the handheld unit features a plastic – rather than glass – digitizer. This is the touch-reflexive screen of the unit.

Palm's Claudia Romanini admits: "The digitizer is usually what breaks on a Palm."

The software bundle includes AvantGo, a browser service to help get synchronized Web content onto

your Palm, and Palm desktop software for the Mac. The £34 PalmConnect USB Kit is available for users who prefer to network with their computer via USB. UK Palm-ists can expect the m100 to ship in September.

The company also unveiled its Aqua-tinted Claudia Schiffer edition Palm Vx device, which will ship this autumn. See Claudia, right.

Palm will release its Palm VIIx in August, increasing the potential memory of the wireless VII from 2MB to 8MB.

The company has announced a series of other devices, though UK details were not set at press time. A Palm Ethernet Cradle lets users sync a Palm to a Mac through any ethernet port. The Mobile Internet Kit is also expected to launch in autumn, letting users connect a Palm V or III to the Web



with a mobile phone. Finally, the Palm Modem Connectivity Kit provides a 33.6Kbps dial-up modem which works with Palm IIIs, and comes with a set of email apps. Palm, 020 7365 9820



Huge sales drive Apple's \$200m profit

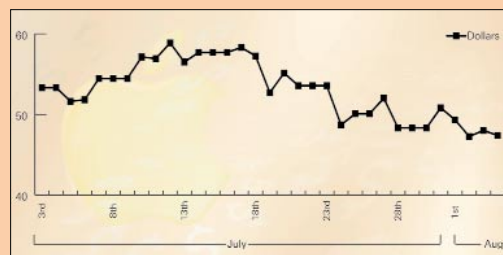


Apple has maintained the momentum of its financial comeback, announcing its third profitable quarter in 2000 – and eleventh successive since 1998. It announced a net profit of \$200 million in this third quarter, giving investors a return of 55 cents per diluted share on revenues of \$1.825 billion. Apple shifted over one million units in the quarter, including 351,000 Power Mac G4 systems, 113,000 PowerBooks and nearly 450,000 iMacs. Sales were strongest in May and June, said Apple's chief financial officer, Fred Anderson. He revealed that Apple has sold over 3.7 million iMacs since the launch of the product.

Excluding \$37 million in after-tax gains from the sale of 4.95 million shares of ARM Holdings, Apple's profits would have been \$163 million – a 29 per cent rise on the same quarter a year ago. At the same time that Apple has been criticized for ignoring its non-US customers, international sales dropped from 51 per cent to 46 per cent of the company's revenues.

Gross margins increased – climbing from 27.4 per cent to 29.8 per cent – due to lower component costs, increased online AppleStore sales, and better-than-forecast sales of professional systems.

Macintosh unit-sales enjoyed an overall 12 per cent increase, with the highest CPU sales increase in the Asia-Pacific region, which rose a staggering 34 per cent. iMac shipments declined, as consumers waited for July's updated product line (see page 18). iMac sales were down



eight per cent from last year. Internal restructuring cost Apple \$8 million in the first quarter. This began in 1999, at a cost of \$21 million in the last quarter of that year.

Apple's research-and-development spending increased by 21 per cent, which hints at further dramatic product announcements from the company.

Apple's investments in Samsung, ARM, Akamai and EarthLink returned impressive figures too. The total value of these is now £1.2 billion, compared to \$339 million in September 1999. Apple finished the quarter with \$3.8 billion in cash and short-term investments. CFO Anderson said that Apple would continue to make "strategic acquisitions", saying these were a high priority, as they represent the best means of driving revenue growth. Apple's financial guru also predicted sequential growth of over ten per cent in the fourth quarter. He announced that Apple is targeting revenue growth of 20 per cent, and earnings-per-share growth of 15 per cent over the next year.

Despite the good news, Apple's stock hovered near \$48 as *Macworld* went to press, a figure that analysts describe as its "support zone", predicting a share buy-back (approved in principle during this year's AGM) on behalf of the company. Shares hit a high of \$58.875, and a low of \$47.250 in the period. 18 major analysts continue to recommend Apple's share as a 'buy'.

Jonny Evans

UK reseller Camelot crashes, as Mac market consolidates

UK Apple reseller Camelot has gone into liquidation, with trade debts of £1.5 million. The full amount of the non-trade (customer) debt is not known. Creditors can expect a dividend from the disposal of the assets – though exactly how much is yet to be determined. It is unlikely to be more than 10p in the pound.

Trade creditor Nitien Joshi, a director of chartered accountants Pannell Kerr Forster has been working with Noel Collins, director of Type Technologies (trading as Camelot) and the three main creditors to structure a rescue bid. He told *Macworld*: "It's very sad. All the major creditors supported a restructuring of Camelot's debt, but, in the end, the plan was rejected by one of the leading credit insurers".

That credit insurer is known to be Trade Indemnity. Langley and Partners has been appointed as liquidator.

The news follows the acquisition of UK firm, Multiple Zones, by German computer retailer, Cancom Systems, in early July. At the time, Multiple Zones founder, Max Wright, told *Macworld* that he believed: "The writing is on the wall for mid-range retailers. You have to be small and niche-orientated, or grow." A clear sign of consolidation in the computer retail marketplace, the combined company enjoys a turnover of over £90 million and a major presence in nearly every European territory.

In future, Multiple Zones plans to build a hybrid-marketing model, like that already adopted by Cancom, which has 12 regional offices in Germany with a central mail-order hub to service them.

Wright discussed Apple's retail strategy, saying: "Apple has always insisted that you be either a retailer or mail-order supplier. We believe Apple will adapt over the next year." Cancom/Multiple Zones will also set up Apple Video Centres, where consumers can see Apple's video solutions in action. Stock will not be held at these Centres, but they will take orders. Goods will be supplied from the central hub. MW

Business briefs

- James Wiebe, Newer Technology's co-founder has resigned to launch his own engineering consulting firm, WiebeTech LLC. In an open letter, Wiebe said upgrade-card maker Newer was now stable enough for him to leave.
- The Internet Corporation for Assigned Names and Numbers (ICANN) is to create an unspecified number of new top-level domains as alternatives to the current .com, .net and .org domains.
- Vicomsoft has been acquired by BVRP Software Group, Europe's largest communications software developer with sales of seven million units worldwide in 1998-99. BVRP says it "recognizes that, in acquiring Vicomsoft, it has opened up new Mac horizons".
- Section Seven of the Electronic Communications Act 2000 is now law, making digital signatures legally admissible as evidence in UK courts.
- Directors at Eidos, the publishers of the Tomb Raider games series, received £5.6 million in bonuses during the last financial year, despite the company issuing two profit warnings.
- Netscalibur, has acquired UK ISP Direct Connection, which will be expanding as a by-product of the deal. The company will soon launch ADSL and pan-European ISP services.



See 'Macworld' – inside 'Serious Software' – on this month's cover CD

Product News

Plasma power
With full audio and computer connectivity, the PDS-4214 is designed to take advantage of current and future Web technologies.



Plasma trio blooded

Fujitsu has launched three 42-inch Plasmavision screens, all with increased brightness and contrast ratios, due to recent advances in Plasma technology.

The screens include the PDS-4208, the PDS-4213 and PDS-4214. They weigh 31.5kg and measure only 85mm deep, offering a 160-degree viewing angle.

The PDS-4208 offers a 450:1 contrast ratio, though it lacks an audio facility. It offers a brightness of 300 Candelas – the equivalent of 300 candles – and costs £5,500.

The PDS-4213 has a 400-Candela brightness, and a contrast ratio of 580:1. It comes with audio, and costs £5,900. The PDS-4214 offers a 400-Candelas brightness and has a contrast ratio of 580:1. It offers full audio capabilities, and costs £6,450.

Fujitsu, 020 8421 7000

Quest for drive speed

EZQuest has launched its Pro-Mar series of FireWire CD-RWs and hard drives.

The Boa Pro-Mar series FireWire 12-x-10-x-32 will burn a 650MB CD-R in just over six minutes, and a CD-RW in just over seven. It can transfer data at 16.67MB/sec. The

Boa Pro-Mar CD-RW retails for £349. The Cobra Pro-Mar series of FireWire hard drives has capacities of 20, 30, 45 and 60GB and cost £335, £419, £539 and £609 respectively.

Channel Dynamics, 0870 607 0540



Hard driving

The sleek Cobra Pro-Mar FireWire hard drive. For a review of the Boa Pro-Mar CD-RW see page 96.

Elite force in printing

GCC Printers has launched a range of cross-platform, black-&-white laser printers. The Elite 21 series will print up to 21 pages per minute, or 7.5 pages in duplex mode at 1,200-x-1,200dpi resolution.

All Elite 21 printers can be networked, and will be available in three varieties. The Elite 21N offers 16MB RAM and 10/100BaseT networking facilities. The Elite 21DN offers 10/100BaseT, 32MB RAM and a

pre-installed duplex unit, which GCC claims is as robust as the duplex units found in photocopiers. The Elite 21 SE offers 10/100BaseT, 64MB RAM and a pre-installed 4GB hard drive.

GCC also offers a WebAdmin feature, which lets users access, test and diagnose the printers via the Internet.

Pricing for the range starts at £999. GCC Printers, 020 8754 6000



Printability

The Elite 21 series can have 16MB or 32MB added to the DN and SE models respectively.

continues page 40

USB-SCSI adaptor ships

Adaptec has announced a USB-to-SCSI adaptor, the USBXchange, which lets SCSI devices connect to USB-equipped computers.

It has plug-&-play connectivity, and can draw its power from the SCSI bus, USB bus or an external power supply. USBXchange costs £55, and should be available later this summer.

Adaptec, 01276 854 500



Galaxy quest

Plugin Galaxy is a collection of 20 Photoshop-compatible plug-ins containing 129 image effects. Effects include transparency manipulation, blurring, texture and pattern generation, noise creation, mirroring and warping. Metallic and neon effects are also included. Grids are also supported. Compatible only with Photoshop 5 or later, it costs \$49.95.

<http://thepluginsite.com/products/products.htm>



Mac crash-protection

Sophisticated Circuits has launched Kick-off!, its first USB-based Macintosh crash-protection product. The automated-USB device monitors unattended computers for problems, and will restart Macs on shut-down, or relaunch individual applications if they crash. It has a WebStar API plug-in for remote-system management. Kick-off! is available now at £179. Alta Technology, 0207 622 6606



QDesign's audio roll-out

QDesign has released MVP 1.2, an all-in-one application for recording from CD to QDesign Music, MP3 and MP2 files. MVP 1.2 has the ability to convert between audio-file formats – such as Design Music, WAV, AIFF, MP2 and MP3. It can playback and encode/record QDesign's industry standard MP2, and features expanded MP3 support.

www.qdesign.com



CDs & Books

IDG adds to Dummies
IDG Books has announced two titles, *iBook for Dummies* and *Mac OS 9 for Dummies*. *iBook for Dummies* by David Pogue guides readers through everything from connecting to the Internet to AirPort networking. *Mac OS 9 for Dummies* covers everything from basic set-up to time-saving tips, and has a section on voice-activated passwords. Both books costs £18.99, and are available at up to 35 per cent off from www.macworld.co.uk/readersoffers, or call 020 7831 9252

Say what you see
Lexia Learning Systems has released Quick Reading Test, a diagnostic test comprised of three modules. It's designed to improve English-decoding skills, from short vowel sounds to complex words. It teaches literacy skills, rather than comprehension, and aims to help remedial students of all ages, with a particular focus on dyslexics. It costs from \$349 in the US, UK pricing is expected in late September. Lexia Learning, www.lexialearning.com

Easy as ABC
Sherston software has released Big ABC and Sound Activities CDs for infant-literacy tuition. They are based on the Letters, Sounds and Rhymes strand of the Oxford University Literacy Web, and are packed with songs, stories and activities based around the initial letter sounds of the alphabet. The CDs are £35 each, and run on Mac, Windows and Acorn systems. Sherston Software, 01666 843 200.



Flattened
Eizo's L351 (above), L671 (below) and the L371 (right) offer full-image scaling and have built-in USB hubs. The L351 has a horizontal-viewing angle of 140 degrees and a vertical-viewing angle of 120 degrees.



Digital connection
The Kritter Digital (below) has a 6.0mm focal length, a 56-degree field of view, and comes in a translucent graphite colour. The CapSure USB (right) can decode digital-video formats.



Eizo Flexes its muscles

Eizo professional display systems has announced three LCD monitors. The 15-inch FlexScan L371 and 18.1-inch FlexScan L671 monitors both come with Digital Visual Interface-Integrated connectors (DVI-I) that offer digital and analogue support for new and current interfaces. Both models also include analogue support through a D-Sub mini 15-pin connector. The L371 offers a resolution of 1,024-x-768 pixels and a contrast ratio of 350:1. It uses 30W. The L671 offers 140-degree viewing angles in all directions, needs 50W and supports a native resolution of 1,280-x-1,024 pixels, and a colour display of 16.7 million colours.

The company has also released the 15-inch flat-panel L351, which includes a DVI-D connector for a direct-digital connection between computer and monitor. The display offers a native resolution of 1,024-x-768 pixels.

The FlexScan L351 costs £739; the L371, £809; and the L671, £1,999. Professional Display Systems, 01483 719 500



Kritter infests NY Expo

iRez showed two revamped products at Macworld Expo, New York – the Kritter Digital camera and CapSure USB.

The Kritter Digital is a FireWire-based webcam capable of transferring 400Mbps per second. It offers brightness, exposure, sharpness, saturation, gamma, white balance, focus, zoom and iris controls. It has a maximum 640-x-480-pixels resolution. The camera requires Mac OS 8.6 or later, and FireWire drivers.

The CapSure USB is a converter box to transfer video and still-images into the computer from various sources – including video cameras and TV tuners. The device uses iRez's compression technologies to provide a throughput of up to 30 frames per second. It can convert video into QuickTime movies



and uses a nine-bit video input processor and combinations of a two-channel analogue pre-processing circuit. The device handles a variety of formats, including PAL, NTSC, and SECAM.

CapSure USB requires Mac OS 8.6 or later, 64MB of RAM and 50MB of hard-disk storage space. Prices for both products weren't announced at press time.

AM Micro, 01392 426 473

Amacon hard drive flips out

Amacom has launched the new version of its Flipdisk – a small, external hard drive – now with USB, PCMCIA and parallel-port connectivity.

Flipdisk is powered from the host machine, and comes in six configurations – from 6 to 25GB, with

a 36GB drive promised soon. The device incorporates robust, 2.5-inch hard drives. Data speeds are limited by the type of connection used – for example, PCMCIA offers 6Mb-per-minute data transfer – and by the speed of the Macs internal hard-disk.

It comes with free lifetime technical support.

The 6GB version costs £299, the 12GB costs £419, and the 18GB £499. Pricing for the 20GB, 25GB and 36GB has not been announced. Amacom, 020 8993 7373



Juicier images

Animated Image Systems Technology (AIST) has released the Digital Juice image library. A collection of 16 CDs, the library includes high-quality images, photos and video clips. All the images are royaltyfree. The full package features 40 video clips with animated loops in full PAL resolution, 600 professionally designed backgrounds, 500 original photos and objects at resolutions up to 3,200-x-2,400 pixels. Digital Juice costs £203. AIST, 01525 713 671



LaCie raids FireWire
LaCie has announced its FireWire RAID solution. It's available with between two and ten hot-swappable LaCie 75GB FireWire hard-drives, and includes version 6.3 of LaCie's Silverlining Pro software with RAID 0 striping (spreading out blocks of each file across multiple disks). The system can maintain up to 30MBps sustained throughput on Apple's G4s. The system, with two 75GB hard drives, costs £1,538. Extra drives start from £279. LaCie, 0207 872 8000

Lindy extends USB

Lindy has released its USB Active Extension cable, which boosts maximum-USB cable-length past three meters. Up to five five-meter cables can be joined in a series, and can be connected to a USB hub. The cables cost £25 each. Lindy, 01642 754 000



View video-capture

BTV View 4.0.1 is a UK-developed shareware video-viewing and -capture solution for the Mac. It can view and capture video from any video-input source, supports multiple monitors and can even capture video frames in PICT or JPEG format. Video can be captured to disk as a QuickTime movie, using custom video- and sound-compression settings. The program costs \$25. www.btv.org.uk



Versatile image-editor

Graphic Converter 3.9.1 is an all-purpose image-editing program that can open and save images in almost any graphics format. It offers batch conversion and a slide-show window. The new version can import 130 file formats and export 40 – including LuraWave (LWF) and SNX. Graphic Converter can also display QuickTime movies. Lemkesoft, www.lemkesoft.de/



Canon scans flatbeds

Canon has launched a range of flatbed scanners – the D660U, N1220U, N650U and N656U – that combine technology with a compact footprint.

Each scanner features a 42-bit colour depth, improved scan-quality, and is capable of recognizing over four trillion colours. They are USB-powered, with enhanced resolution courtesy of Canon's Variable Refraction Optical System technology.

The £199A4 desktop D660U is a 600-x-1,200dpi USB flatbed scanner that can scan 35mm film. It will ship in October. The scanner comes with a range of software, including Caere OmniPage SE 8.0, Adobe Acrobat Reader, ArcSoft PhotoStudio 2000, ArcSoft PhotoBase 2.1 and a selection of Canon software.

Canon claims its portable £149 CanoScan N1220U is the world's smallest

A4 flatbed scanner. It offers 1,200-x-2,400dpi resolution and a scan button for one-touch scanning. It weighs 1.5 kilograms, comes with the same software as the D660U, and is set to ship in October.

The single-pass CanoScan N650U and N656U models offer 600-x-1,200dpi. The £99 N656U, the deluxe model, comes with a silver document cover and a silver body. The scanner can reach speeds of up to one page per 40 seconds, depending on colour and resolution. The N650U will cost £69. Both models are set to ship in September.

Canon, 0121 680 8062



Flat out
The Canon N1220U (above), and D660U (below) feature 42-bit colour depth and are powered through a USB cable.



Lightweight projector roll-out from Proxima

Following its merger with InFocus, Proxima has released a lightweight projector for the budget-conscious – the DS2.

The DS2 can run video from most VHS and DVD players and camcorders, as well as Macs and PCs. It offers a 16:9 aspect ratio, in addition to the standard (4:3) format. It includes digital zooming and digital keystone correction – to help images stay square, even when the projector is at a lower angle than normal. The projector has a resolution of 1,024-x-768 XGA and a brightness of 1,000 ANSI

lumens. The unit also supports VGA (640-x-480), SVGA (800-x-600), XGA (1,024-x-768) and SXGA (1,280-x-1,024). It's compatible with most major video standards, including PAL, NTSC and SECAM.

The DS2 is fully remote-controllable, and the lamp lasts for 1,500 hours. The DS2 costs £2,795.

Proxima, 01628 666 622

Product News continues page 42



Project yourself
Weighing in at around 5lbs, the DS2 is Proxima's first stab at the consumer market.

Apple updates



Visit *Macworld's* Apple International English updaters portal page at www.macworld.co.uk/updates for links to the relevant Apple Software pages for updates released by the company. We update these pages frequently.

Recent Apple updates include ASIP Agent 6.3.2 for customers running AppleShare IP server software, AppleScript 1.4.3 – which corrects some bugs and enhances Apple's scripting application – and FireWire 2.4 – which adds hardware support and extends battery life on PowerBooks. Apple has also released Firmware updates for all its current machines, as well as an ethernet update, that improves ethernet connections. The Color StyleWriter 4000 Driver Update is also available. Apple has also updated its Macintosh Manager and Macintosh Management server software.

Third-party updates

Adaptec Jam 2.6

This update supports USB and FireWire CD recorders, and includes new MP3-burning capabilities.

Adobe Photoshop

Altivec Plug-in

This plug-in resolves problems when using Photoshop 5.5 with Mac OS 8.6 or 9.0 on a multiprocessor system. It also fixes bugs with the Distort filters on RGB or LAB images, and improves the speed of many operations.

ATM Deluxe 4.6

This update for Adobe Type Manager (ATM) Deluxe 4.5 provides OpenType font support and unified support for Mac OS 8.1 through 9.0.

MS Office 98 Updater

This update prevents Office 98 applications from inserting a unique identifier number into Office documents, and repairs a security issue when the application allocates space on the disk for file storage, erasing extraneous data. It also improves the application's behaviour when running on Mac OS 8.5.

Umax adds FireWire to scanner range

Umax has launched the first four models in its revised Umax Astra scanner range – the USB Astra 3400 and 3450, and the consumer-level FireWire-enabled Astra 6400 and 6450 scanners.



Scan-tastic

All of Umax's latest scanners carry four scan controls, featuring Scan, Copy, Custom (Fax, OCR or email) and Power Saving buttons.

The Astra 6400 can create an A4 prescan in nine seconds, and carries FireWire connectivity with maximum transfer speeds of up to 400Mbps. Its has a resolution of 600-x-1,200dpi with a maximum scan size of 216-x-297mm. It supports Mac OS 8.5 or later.

The Astra 6450 offers 42-bit colour scanning and includes a transparency adaptor. Both scanners come bundled with the VistaScan Driver, Presto! PageManager, Caere OmniPage LE OCR software, Adobe Photoshop LE and Acrobat Reader. They cost £170 and £212 respectively, and will ship in September.

The USB scanners, the Astra 3400 and 3450, can create an A4 prescan in 15 seconds. With resolutions of 600-x-1,200dpi, the scanners support Mac OS 8.5 or later. The Astra 3450 comes supplied with a transparency adaptor. Bundled software includes the VistaScan Driver, Presto! PageManager, and Adobe PhotoDeluxe and Acrobat Reader. The USB-scanners cost £60 and £85 respectively, and will be available in August.

IMC, 01344 871 329

Video for RT types



Video ga-ga

RTMac improves Apple's FireWire support.

Matrox has announced the UK availability of the RTMac PCI Video card for real-time, digital-video editing on the Mac. First announced at the National Association of Broadcasters show (NAB), the card was hailed as a major step into the video production market by Apple, and a strong sign of the ground the company has gained in the personal computer market.

The RTMac was co-developed by Matrox and Apple engineers. The card supplements

the built-in FireWire capabilities of G4 Power Macs, adding composite, S-video and analogue video-capture and export abilities.

It also adds support for a second computer or video monitor, and realtime processing of DV footage. It can handle transitions between two video channels (dissolves and wipes).

Matrox moved to the Mac because it "recognizes Apple's strong commitment to video". RTMac will cost £669.

Matrox, 01753 665 577

Boris FX scopes-out Flash

Boris FX has announced Boris RED 2, its new vector engine for graphics, text, paint and rotoscoping. The plug-in now provides direct export to Macromedia Flash.

Boris RED 2 is a solution for editing professionals in commercial television post-production. It's resolution independent and offers 3D-compositing and a title-effects editor for video-finishing on Power Macs. Users can create sophisticated 3D-composites using Z-space containers, which offer a compositing environment for true 3D compositing with cast shadows. The plug-in has been developed to enhance the creative possibilities inside non-linear editing applications. It also offers a stand-alone

KeyFramer for off-line content creation. The application integrates into nonlinear finishing systems, so animators can repurpose video titles and paint animations directly onto the Web.

Bézier Rotoscoping is supported – speeding up the creation of moving mattes inside a nonlinear editing system. Vector Paint tools are also supplied.

The plug-in is compatible with most major nonlinear editors, including Adobe Premiere and After Effects, Final Cut Pro, and Media 100/iFinish systems. The product will be available this autumn and costs £1,295.

Polar Graphics, 020 8868 2479



Boris better

Boris RED 2 will export to Macromedia Flash and Apple's QuickTime formats, and can create graphics, text and paint.

PC die-hards who bleat on about unupgradeable Macs miss the point.

David Fanning



Cube not for squares

At a recent Apple press event, I experienced a revelation: as far as Apple products go, PC journalists either just don't get it or don't want to get it. They aren't interested in usability, they aren't interested in design, and they certainly aren't interested in comparative speed tests.

They appear interested only in failure, obscure specifications and other distractions. They are depressing beyond belief. Years ago, when Windows 95 was just a twinkle in Bill's eye, there was a great debate on which operating system was better. Macintosh System 7 versus Windows 3.11 was quite a heated debate.

The Apple system was obviously much better, but Windows fans didn't care. I don't know why – perhaps they were in denial, or maybe they really did like the DOS-prompt and the green text. Even though new users could see that the Mac OS was much easier to use, Apple's marketing wasn't up to scratch and Microsoft launched Windows 95 with a fanfare.

Windows 95 was the biggest software launch in history, with Mr Gates flying around the globe for a series of launch parties. People queued-up at midnight to get the first copies of Win 95. Even Radio 4 spent most of the morning covering the hysteria brewed-up by a legion of soulless marketing troops.

Bad management

Apple should have been fought back. Unfortunately, this was a time when Apple was in a downwards spiral of bad management. It wasn't long before PC fans were pronouncing Apple dead, and news stories routinely referred to Apple as "the beleaguered computer company". Things looked grim.

A couple of years on, and with Steve Jobs back in the driving seat, there has been a steady stream of fantastic products from Apple. The design of computers has changed only because Apple had the heart to change it.

The iMac took the computing world by storm. Almost immediately, PC manufacturers began producing poor copies of it. More recently, PC manufacturers gave up mimicking iMac colours, because they didn't understand that making something look like a Mac isn't the same as it being a Mac. They just didn't get it.

Anyway, back to the sour-puss PC journos at the Apple launch. They were griping about the video card in the latest iMacs. Apple was comparing its performance to that of similar entry-level PCs, and the journalists were complaining that a real hard-core gamer wouldn't be

seen dead using any of the models mentioned. A hard-core gamer, they claimed, would install a fancy-pants £200 video card – something that could do 70 frames per second. I watched in amazement as the Apple guy tried to explain that the company isn't trying to sell the iMac as a games machine – that it is being sold on ease of use, power and design.

Upgrade lust

The iMac is a consumer computer designed for people like my mum. It's not for soldering-iron-toting freaks with upgrade lust – the computer equivalent of those petrol-heads that shove Spitfire engines in their Ford Capris. PC journos are not your average computer users. They may be at the cutting edge, but they clearly aren't normal.

This is a mark of the kind of journalist that has the job of reporting on the new Macs for the PC press. The kind of person that marks a computer down for lack of a command-line interface, find iMacs limp-looking and who would feel cheated if they bought a computer that hooked-up novices to the Net in under ten minutes.

So what exactly are they going to make of the Cube? Frankly, I couldn't bear to watch. The Cube was being introduced in an afternoon session at the same London press event – and I'd already seen it in New York. The thought of a bunch of PC hyenas being told that the latest Mac was not upgradable was more than I could handle. They were obviously going to miss the point.

That the Cube and iMac are not upgradable is a little difficult to explain to computer people. But try it on a normal person and it's a different story. My mum, for example, is almost certainly not aware that computers can even be upgraded. She isn't the kind of person to stick a bigger engine in her Fiesta, so why would she start hot-rodding her iMac? It's not that she can't grasp the concept of upgrading – just that it's utterly unimportant to her.

The fact that the Cube has a minimal amount of wires to connect the screen and other peripherals is not going to impress the PC guys. My mum, on the other hand, loves the idea of neat and tidy cables. It's quiet too – but that isn't a measurable benchmark, just a nice extra feature.

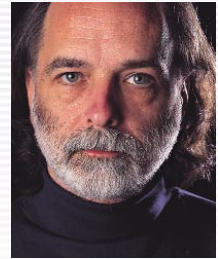
So think of the new G4 as a new Aston Martin. It's not the kind of thing you rip the roof off, or install a nitrous oxide afterburner into. It's already a thing of beauty, even if it could be out-performed by a souped-up Sierra.

The G4 Cube isn't designed for computer mechanics, but for computer artists. Less of the Cosworth, more of the Conran.

mw

Netscape is cast as a Net victim
– but are we the real fall guys?

Michael Prochak



Netscape in the dock

These days, knowledge – or at least information – is definitely power, and the more powerful the information, the more each of us should be concerned about who gets to read it. As more information becomes digitized, the easier it is for it to fall into the wrong hands. And even when an individual or company is caught – or even when a government starts leaking like a sieve – the legal remedy will, more often than not, be fairly unreliable.

For example, if you wander into an office without being ‘invited’, the most you have committed is an act of trespass. In the UK, this is a civil wrong, rather than a criminal offence and, as a victim, you can sue for damages, providing you can prove that damage (which in most cases, means physical damage) has occurred. It’s only if you break into an office or use keys that you commit a criminal offence.

If a trespasser steals something – defined loosely as taking something away permanently – they’d be guilty of theft. The tricky thing here is, under English law you can’t steal ‘information’. You can steal the paper or disk it’s stored on, but not the information itself. On top of that, you can’t be charged with stealing something that’s been thrown away or deleted.

Out on the Web, things get even more weird. I’ve already talked about the ridiculous nature of the proposed RIP Bill, which has since become law, by the way. But that’s not the only threat to information on your Mac or PC.

In the US, the secret weirdies down at the FBI have been discussing the controversial ‘Carnivore’ email snooping device with politicians on Capitol Hill. Supporters of Internet privacy, meanwhile, have been taking an even closer look at the technology that has been packaged with the latest Netscape browser.

A few months ago, a webmaster named Christopher Specht began what he is hoping will be the beginning of a major case against AOL, the current owner of Netscape Navigator. Specht claims that AOL has used a download module that allows it to spy on users of its browser when they’re retrieving certain kinds of files from servers across the Internet. A German Internet publication called tecChannel has also had a good rummage under the bonnet of the browser and confirmed Specht’s claims.

It seems that tecChannel found that the ‘SmartDownload’ feature, which many of you will

be familiar with, forwards information on every file it helps users download via the Internet to a Netscape server – including those not hosted on the AOL or Netscape server. By using the search button on the application toolbar, users unwittingly reveal records of how they searched for interesting offers and what exactly they were looking for. Specht claims that this sort of spying contravenes the Computer Fraud and Abuse Act (CFAA) and the Electronic Communications Privacy Act (ECPA). I’m not sure how this would play under UK law, but you get the picture.

The technology in question was originally intended for resuming failed downloads of executable files and archives and has been available as part of Netscape’s browser since version 4.7. It first appeared as Download Demon by NetZip but was eventually bought by RealNetworks, and the technology became part of its RealDownload product. This was then licensed to Netscape.

Although no one seems to know what Netscape uses the SmartDownload feature for, visiting the Netscape site to obtain the latest version of the browser reveals a prominent promotion of SmartDownload. Specht’s lawyer states that, when the feature is downloaded and run on an Internet user’s computer, it connects automatically to Netscape’s file servers and downloads the installation program for Communicator. SmartDownload then takes over the task of downloading various files from Communicator, when Communicator could, in practice, undertake these tasks without even bothering with the installation of the SmartDownload feature. The tecChannel investigation also revealed that if the user of the browser is a subscriber to Netscape’s Netcentre portal, SmartDownload will also transmit that user’s personal Net Centre email address.

With personal data having nothing to do with SmartDownload’s ability to continue where an aborted download was interrupted, it makes one wonder why Netscape, or anyone else for that matter, wants all this information. What, exactly, are they going to do with it once they’ve got it?

We expect this sort of thing from Microsoft, and can only guess what digital tea-strainers they’ve hidden in IE. But after Netscape’s role as victim in the Microsoft anti-trust fiasco, maybe it should have learned the importance of being earnest. **mw**



Macworld Rating

★★★★★/9.0-10.0 = OUTSTANDING

★★★★/7.0-8.9 = VERY GOOD

★★★/5.0-6.9 = GOOD

★★/3.0-4.9 = FLAWED

★/0-2.9 = UNACCEPTABLE



Apple's home digital-video editing software

iMovie 2

Publisher: Apple www.apple.com/uk

Distributor: Computers Unlimited (020 8358 5857)

Pros: Easy to make top-quality movies; great effects; unlimited clips; and free with the new FireWire-equipped Macs.

Cons: Automated clip-importing is inaccurate; not designed for big monitors.

Minimum specs: FireWire port; 300MHz Power Mac G3 or later.

Price: \$49. No UK pricing announced at press time.

Star Rating: ★★★★★/8.6

When Apple released iMovie, it marked the beginning of a revolution in personal computing. Anybody, and I mean anybody, could make a movie. The only ingredients needed were a FireWire-equipped Mac and video camera, and a little imagination. The original iMovie was so simple that it didn't even ship with a manual – most users could just guess how it all worked.

There was a price to pay for such simplicity: it had only the most basic editing tools. iMovie 2 is slightly more complex – though many of the limitations of the previous version have been addressed – yet it's no harder to use

Video effects

One of the most impressive new features is motion effects. This is a slide bar to speed up, slow down or even reverse the video clip. The slow-motion effect is ideal for running end-credits over clips, or creating a dreamy feel, guaranteed to get grandparents weeping at little Johnny running – *Little House on the Prairie*-style – through the fields. To complete this tear-jerker effect, you can now add a soundtrack directly from a CD. Just imagine the footage from your Princess Diana memorial barbecue in slow motion, to the strains of Elton's *Candle in the Wind*.

You can also do some basic tweaks to the music – such as fade in and fade out. But this could do with some extra controls, to allow the song to be faded back when people are talking, for example. The Video effects could also be improved, by allowing a little more control. The speed can be adjusted to go faster or slower – but an ease-in, ease-out for the speed-change would be nice.



Home brew

The Plug-in Pack is stuffed with the best goodies, so be sure to download it as soon as you get iMovie 2. You can choose from a number of different titling styles. Here we chose the News at Ten effect, ideal for home-brewed news stories.

There are a number of new visual effects available in iMovie 2. Useful but basic effects such as Black-&White and Sepia Tone are in the basic package. Apple has already released a plug-in pack for iMovie 2 that includes more interesting modes, such as trails and mirror effects. However, "more interesting" actually translates to "less useful" on a regular basis, but fun effects are always nice to have. If you want to recreate a favourite '80s pop video all the tools are here. It could be your ticket to a home version of *Stars in their Eyes*.

Unlimited clips

One of the main gripes with the original iMovie was that you were limited to 12 movie clips. Now the only thing to limit your creativity is disk space – if you're lucky enough to have a relatively new Mac, with a large hard disk, this shouldn't be a problem.

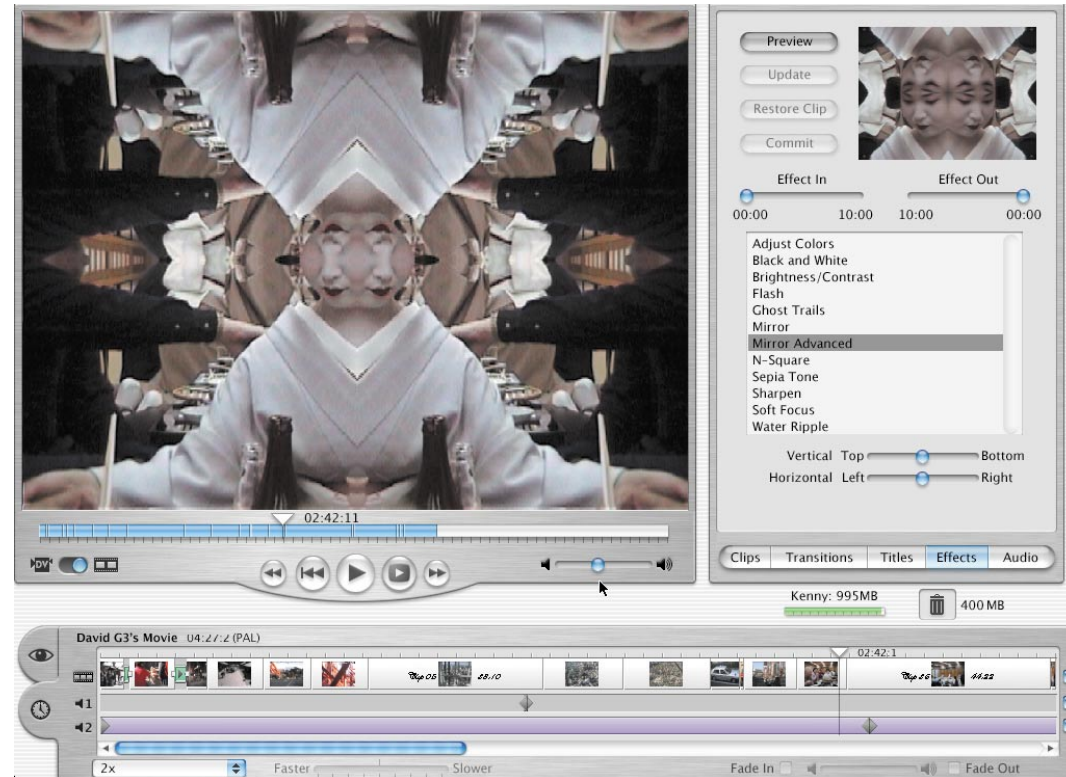
The sound effects haven't changed in this version of iMovie, which is a bit disappointing, as this is surely one of the easiest additions Apple could have made. You can import sound clips, though, as long as they are in the AIFF format.

Sound effects are plentiful on the Internet, and for the project in hand I found some *Carry On* clips to add spice to the scenes. If the sounds are in the wrong format, QuickTime Pro can export practically any audio format to AIFF. It's simple to import sound and cue it up to the event on the screen. Although iMovie only appears to offer two sound tracks, it's possible to add more than one sound or effect to each of the tracks.

Voice-over

Audio from one video clip can be extracted to make a voice-over for another piece of footage. This means you don't have to dub a fresh voice-over when you come to edit the original soundtrack. Sound tracks can also be used to disguise faults with the original footage. For example, if the camera gets knocked when taping, another video-clip can be played to cover it while keeping the original soundtrack.

Some slower Macs may be unable to show the movie at full screen and keep the original frame rate. If you have a camera with DV in and out, it may be able to play back either on the camera



screen or onto a TV set. This is because the hardware needed to decompress the data is built into the camera. The Mac can manage this decompression through sheer brute strength, but the camera hardware has a DV processor devoted to this action. So if it can be used, take advantage of it.

With iMovie 1, keeping audio in sync with video was difficult. Now, there's a command to lock them, making sync problems a thing of the past. Another problem was keeping track of the timeline. A long movie made for tricky editing when the view of the pieces was too small. Now, the timeline can be resized to make more accurate changes.

Too short

Of course, budding Hitchcocks are not instant movie-masters and everybody makes mistakes. If you edit a clip too short, you'd previously have had to re-import the footage. Now, you can restore the original clip without having to plug in the camera.

The new-look iMovie interface is in keeping with the Aqua interface that will be seen in Mac OS X. Awash with throbbing and glowing liquid lozenges, it's a delight to use – unless you have a big monitor, that is.

The iMovie interface is designed to fit a 1,024-x-768 screen perfectly, ideal for iMac owners. However, when presented with a bigger screen, such as the 1,240-x-1,024 screen I use, the tools remain the same size but are widely spaced. Great swathes of the screen are unused, and the palettes are not expandable. Although iMovie was designed to go with the iMac DV, as it's now available for all FireWire-equipped Macs, it's a shame that a bigger layout isn't an option. It wouldn't take much extra programming, and it feels like iMovie 2's development was cut short to get it ready for the launch of the new iMacs.

An even bigger give-away that Apple rushed the launch, is that barely a week after its launch an update to 2.0.2 was released. The extra plug-in pack also relies on the update being installed. It's worth downloading though, as it contains the best effects.

Although a great package, there are other flaws in iMovie 2. The automatic import that divides footage into individual clips at each new shot, doesn't always hit the mark. This meant that the beginning of clips are cut off, and the end of clips also include some of the next shot. It isn't a big deal, but does require some messing around to get everything right. So for now, be sure to add a

fraction of a second to the beginning of each shot you record. The lack of proper support for larger screen-sizes is also a flaw, but not a serious one. I hope this oversight will be addressed in a future update.

Macworld's buying advice

Apple iMovie is in a class of its own. There are other DV-editing packages, some of which are free, but none are as easy to use as iMovie. The original iMovie is now a free download from Apple, though it looks plain compared to the new version. The great thing about iMovie 2 is that you can make a movie with no film-making experience at all. Just about anybody with the right equipment and a basic grasp of the Mac can make a professional-looking film.

This is an exciting prospect for the Mac consumer. Even novices, kids and your mother-in-law will be making movies with this program. If you can operate a video camera, you can operate iMovie. I was worried that iMovie would be the Super 8 of the new millennium, allowing anybody to create tiresome holiday movies. But the fact is, iMovie makes us all look talented. When it goes on sale in September, a new breed of film maker will be born.

David Fanning

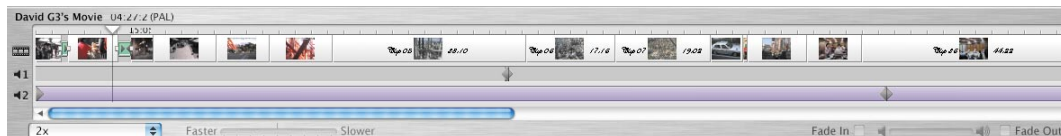
Mirror image

iMovie 2's interface is like a preview of Mac OS X. When OS X is finally released, expect iMovie to be one of the first applications to be available.

Left is the Mirror effect included in the Plug-in Pack. It's great fun, as are most of the wackier effects. Unfortunately, the more far-out the effect, the less likely you'll use it.

Keep time

The timeline has tiny thumbnail pictures so that you can keep better track of the clips.



Jonathan Ive's SoundSticks tested against the competition

Apple and harman-kardon have just unveiled their latest Jonathan Ive-designed accessory – the SoundSticks. And, as you'd expect, they look great.

Aesthetics and price are often the difference between a speaker's success and failure. But this isn't the best way to chose a set of speakers. The selection of speakers tested here shows why "what you see isn't always what you hear".

Yamaha YSTM40 The YSTM40, the newest of Yamaha's USB speakers, needs Mac OS 9.0.4 to work via USB. But even if you don't have OS 9.0.4 or USB, there are two analogue-audio inputs.

As it's only a two-speaker system, the YSTM40 is limited in the sub-bass department. Because there's no subwoofer, the main speakers have to cover a wider frequency-range – which results in a flat and undifferentiated bass. However, the bass levels can be boosted by a knob on the speakers – but this gives a somewhat muddy bass. On the plus side, there is an output jack for a subwoofer, which would make a world of difference. The mid- and high-range sound was crisp at a moderate volume – even when the treble was set at maximum. Higher volumes, of which this 24W system is capable, suffer from distortion – depending on how high you've set the treble and bass.

The YSTM40 has two tone-controls for bass and treble, which allow the sound to be tweaked, and – along with an over-sized volume knob – are conveniently to hand. The power button is on the right speaker's face and there's an easy-to-reach surround-sound mode. However, this effect was not up to scratch. There's also a headphone jack, so there's no need to clamber round to the jack on the back of your machine. As with



Sticking out
The SoundSticks' looks make them ideal companions for the latest iMacs, but sound does suffer when the volume is cranked-up. Between the sticks is the iSub subwoofer.

most of the Yamaha speakers, this system is available in a choice of Calypso Black and Platinum White.

Yamaha YSTMS35D At £49, this is one of the cheapest three-speaker systems available. The nicest looking of the Yamaha systems, with a cube-shaped sub and small-cuboid satellites, these speakers have volume and power controls on the right satellite. The bass control – there's no treble – is on the back of the sub. This shouldn't be too much of a problem, as the bass needs to be set to max anyway – the sub is so feeble that any lower and it becomes useless.

The specs claim the subwoofer has 18W of power, and can reach down to 45Hz – this should make for a reasonable output. However, Yamaha must have set the bass-levels of the amp low. The sub frequencies are hardly audible, and even the bass-frequency output pales in comparison to other subwoofers – disappointing for a three-channel system.

If you're on a budget, you'd do better to buy a decent two-speaker system, such as the YSTM40, even if they don't look as nice.

Yamaha YSTMS55D The YSTMS55D is the top model out of the three Yamaha systems, with a sub boasting 40W of power and a frequency range down to 32Hz. Unfortunately, as with the YSTMS35D, the bass levels are too low, but cranking up the bass control can give OK results. The sound has a pleasing, warm resonance, due to the driver-housing, and higher frequencies are clear and distinct. With a total power of 80W, this system can easily break your, and your neighbour's, ear drums. It distorts a little at this level, but unless you're planning to start a club, don't worry.

Again, there's a headphone jack, volume control and both analogue- and digital-audio inputs. As with the other analogue-and-digital systems, the only noticeable effect of audio over USB was



Sound investment
Creative's Soundworks Digital came top of the class, with decent quality sound at all frequencies.

less volume. You'll have to pay more for this top-end system, but the drop from £119 to £79 makes it worthwhile. It's a shame these speakers don't look better – the satellites are boxy, and the sub is massive. Plus, it only has a fabric shielding, so you could easily kick-in the subwoofer.

Creative Cambridge Soundworks Digital For pure sound quality, this system is the best. The satellites have been well thought-out, with stereo copper-wire inputs hidden behind detachable sprung-plastic stands. These act like suspension, and allow the speaker to vibrate without rattling against the desktop. Each satellite is an identical matte-black, round-edged cube, with black metal grills shielding the diaphragms – although the sub is a plain black box.

All inputs and the bass control are located on the subwoofer' and the volume is thoughtfully connected via a cable to the sub. There are two analogue inputs to allow another computer or stereo to be hooked up. The digital input is unusually via an S/PDIF – so unless you have a soundcard with a digital-audio out, you won't be able to fully utilize the digital-audio capability.

The output is the smoothest I've heard from a multimedia system. The Soundworks Digital has the lowest range out of all the systems tested, an impressive 30Hz. The sub-bass output is magnitudes more powerful than any of the other systems tested. Not only is it pumping, but beautifully differentiated from the bass frequencies. With 24W power for the subwoofer and 8W each for the satellites, the individual amps can drive this system to the limits of tolerable volume without distortion. All for just £61.

harman/kardon Soundsticks As we have come to expect, the latest Ive-designed device is striking. The transparent design hints at clear, differentiated sound, and this is exactly

what you get. The iSub really pumps hard, driven by a 20W amp, and with a frequency range starting at 44Hz it's hard to beat for strong, defined bass. The Sticks themselves output impressively sharp sound. However, the feel was not as warm as I like. Many audio experts insist that only wood will do when it comes to speakers, because this gives a natural resonance to

the sound. While not everyone agrees, I think the pure-plastic design of the SoundSticks does result in an artificial feel to the output. As a result, this system lacks the smoothness I want from a product that costs over £100.

The system is incredibly simple to install, as it's connected via USB to your machine. Unfortunately, this is the only connection – there is no analogue input. Apple's dedication to digital-over-USB, although offering maximum user-friendliness, is not ideal for audio-purists. There is no volume control on the amp itself, restricting you to the Mac's system volume control. This means the amp cannot be set relative to the signal. The SoundSticks are intended for use with Mac OS 9.0.4 with enhanced multimedia. I initially tested the system on OS 9, and was horrified to find that the speakers were seriously clipping (a "cutting-out" of the sound, normally caused by a signal input to the amp that exceeds its physical limits) at maximum volume. Changing to OS 9.0.4 dramatically reduced this.

While the design is stunning, I have one or two doubts. The hole in the top of the iSub exposes the diaphragm to stray missiles. We dropped a wire-tie in and no matter how hard we tried, we couldn't shake it out – I dread to think what would happen if you spilled a drink nearby. The multiple speakers in the satellites are totally superfluous: it would have made more sense to spend the same money on one high-quality, powerful speaker than four, smaller, cheaper ones. However, this system is well suited for multimedia use, particularly if you value looks.

Macworld's buying advice

The Creative Soundworks speakers had the best sound. However, if coolness is critical, the Soundsticks are a superb choice for multimedia. If cash prohibits these, go for the Yamaha YSTM40D.

Seth Havens



Speaking volumes
Yamaha's range of speakers suit all pockets. The YSTMS35D (top) and YSTM40D (middle) cost £49, but lack low-frequency quality. The YSTMS55D (bottom) costs £79, but comes only in white.

Multimedia speakers: tested and compared

MANUFACTURER	MODEL	STAR RATING	PROS	CONS	MIN SPECS	PRICE	CONTACT	TELEPHONE	WEB
Yamaha	YSTM40D	★★★/6.0	Convenient features; reasonable price.	Lacks sub-bass.	Audio-out jack; USB; Mac OS 9.0.4.	£49	Yamaha	01908 369 211	www.yamaha-music.co.uk
Yamaha	YSTMS35D	★★/4.5	Cheap for a 3-speaker system; good looking.	Very disappointing bass.	Audio-out jack; USB; Mac OS 9.0.4.	£49	Yamaha	01908 369 211	www.yamaha-music.co.uk
Yamaha	YSTMS55D	★★★★/7.2	Very powerful; good sound; warm tone.	Unattractive; white only; over-priced.	Audio-out jack; USB; Mac OS 9.0.4.	£79	Yamaha	01908 369 211	www.yamaha-music.co.uk
Creative	Soundworks Digital	★★★★★/9.2	Superior sound and design.	No USB; fiddly set-up.	Audio-out jack; soundcard with S/PDIF digital-out jack.	£61	Insight UK	0870 700 7350	www.csw.creative.com
Harman Multimedia	SoundSticks	★★★★★/9.0	Clear sound; great looks; simple setup.	Too quiet; some clipping; impractical design.	USB; Mac OS 9.0.4.	£150*	Apple	0870 600 6010	www.harman-multimedia.com

All prices include VAT. *estimated price



Disk-management utilities

Hard Disk SpeedTools 3.0

Publisher: InTech Software www.intechusa.com

Pros: Inexpensive; free upgrades; FireWire and SCSI RAID 0 support.

Cons: No SMART support; no volume resizing.

Min specs: Mac OS 6.0.4; 2.5MB RAM; SCSI, ATA, ATAPI or FireWire disk device.

Price: \$50 available online.

Star Rating: ★★/6.9

Hard Disk Toolkit 4.0

Publisher: FBW Software www.fbw.com

Distributor: Softline (01372 726 333)

Pros: FireWire and SMART support.

Cons: Expensive; ageing user-interface; resizes only HFS volumes.

Min specs: Mac OS 8.1; CD-ROM drive.

Price: £125 (excluding VAT)

Star Rating: ★★/5.0

Radialogic 1.8.1

Publisher: Prosoft Engineering www.radialogic.com

Distributor: AM Micro (01392 426 473)

Pros: Supports USB, FireWire, SCSI, and ATA for fixed and removable drives.

Cons: No RAID 0 support; wrapper feature doesn't work.

Min specs: SCSI and ATA: Mac OS 8.1 or later. USB: Mac OS 8.6; USB Manager 1.2. FireWire: Mac OS 8.6; FireWire 2.2.2

Price: No UK price yet.

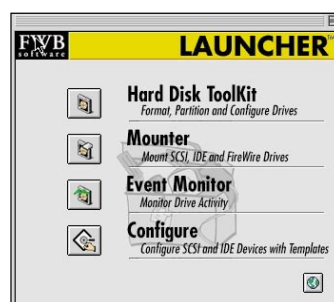
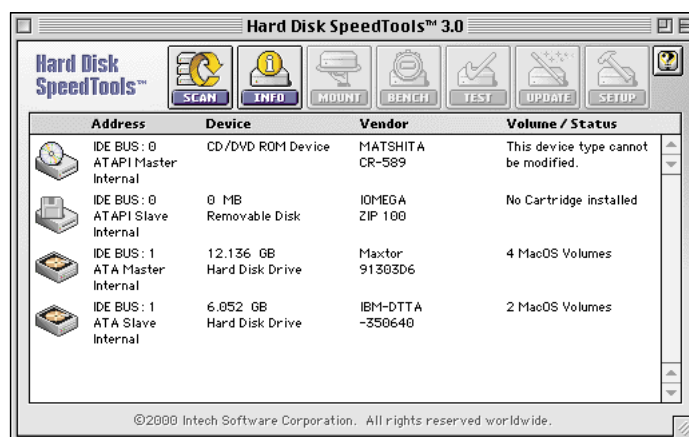
Star Rating: ★★/5.5

No matter which applications you run on your Mac, a disk driver is always aiding and abetting them. Invisible to those not technically inclined, the disk driver mediates between the operating system and the disk hardware. You're probably using the stock Apple driver that came pre-installed on your Mac, but there are alternatives to Drive Setup. FBW Software's Hard Disk Toolkit (HDT) 4.0, Intech Software's Hard Disk SpeedTools (HDST) 3.0, and Prosoft Engineering's Radialogic 1.8.1 provide formatting and partitioning features, as well as drivers for various needs.

Beyond ATA

Two factors contributed to the development of third-party drivers and disk-formatting utilities: Apple's drivers worked only on Apple-branded drives, and its drivers weren't always the fastest. FBW Software made a reputation for itself with HDT by providing a fast yet reliable driver that worked with a wide range of SCSI disks, not just Apple's.

Apple's Drive Setup still works only with Apple-branded SCSI disks, but more important, it will work with any ATA (also known as IDE) drive. The ATA driver installed by Drive Setup is plenty fast, with the added benefit of having originated within Apple and undergone testing against current versions of the Mac OS. But although every recent Mac



All in one

Intech Software's Hard Disk SpeedTools' main window (above) displays all recognizable devices connected to your Mac, while Hard Disk Toolkit 4.0 (left) offers a reliability monitoring feature.

encrypted volume with a non-Radialogic driver, the volume is supposed to be user friendly and tell you that you need to use a Radialogic driver. Alas, when we secured a volume with Radialogic and then used the stock VST driver with it, the volume appeared as unrecognizable in the Finder. Even so, Radialogic is the most comprehensive package, in that it supports SCSI, ATA, USB, and FireWire for fixed and removable drives, including CD-ROMs.

HDT 4.0 continues FBW Software's tradition of reliability-monitoring features, letting you set HDT to query ATA drives equipped with Self-Monitoring Analysis and Reporting Technology (SMART) to make sure they're hale and hearty. Most modern drives support SMART, so this is useful, especially in server environments.

These drivers and packages are relevant only to "classic" Mac OS. Mac OS X has a different driver architecture that none of these packages claim to support. Although HDT does allow volumes to be resized, it can resize only regular HFS volumes. That was sufficient at one time, but today, the ability to resize HFS+ volumes is a necessity.

Macworld's buying advice

For most people, the stock Apple drivers will suffice. If you need more, you have several good options. Hard Disk Toolkit is the veteran of the Mac-driver scene. Hard Disk SpeedTools 3.0 is reliable, although it lacks innovative features such as SMART support. The newcomer, Radialogic, is the most comprehensive package, but still has a few rough edges.

Darrel Plant and Stephan Somogyi

has an ATA drive built in, there are plenty of other types of drive (such as FireWire), many of which can't be used with an Apple driver. HDT and HDST have been around for a while, but their new versions are the first to incorporate FireWire support. Radialogic, a newcomer to the disk-utility arena, also supports FireWire.

We tested the three packages' FireWire support, along with that of the default VST Technologies driver, on a 12GB VST drive. Installing the drivers is as simple as putting the driver into the Extensions folder (or letting the installer do it for you); formatting the drives is a similarly simple task. Our benchmark tests showed that the driver didn't make a huge difference in performance and that no single driver was consistently faster or slower than the others.

Not just FireWire

Although FireWire is glitzy, there are still plenty of SCSI drives out there. All three packages support SCSI, and HDT and HDST let you configure SCSI drives as RAID 0 arrays to improve performance.

The HDT and Radialogic packages also provide encryption features, and Prosoft Engineering claims that Radialogic has a feature called a wrapper that works like Mac OS Extended volumes do when they're used with a version of the operating system that supports only Mac OS Standard (also known as HFS) volumes. If you use a Radialogic-



Lightweight digital projector

InFocus LP 335

Manufacture: InFocus (020 8231 2100) www.infocus.com

Pros: Light, bright and small.

Cons: Looking at the screen too closely makes your eyes go funny.

Minimum specs: Video output.

Price: £4,150 excluding VAT

Star Rating: ★★★★★/8.7

There was a time when a whizz-bang presentation just consisted of a few overhead slides that may or may not have included colour. These days, that doesn't come close to cutting the mustard. As the price of projectors has tumbled, their popularity has increased. Where once a basic one would have set you back £5,000, they start at less than half that now – although the LP 335 is at the top of the range for its class.

Gone too are the backbreaking monoliths that passed for portable projectors. The latest models, such as the InFocus LP 335, weigh in at under 5lbs. They are getting brighter too – the LP 335 is capable of an amazing 1,000 ansi lumens, more than twice the brightness available on portable projectors just a couple of years ago.

The resolution of the LP 335 is true-XGA, or, in Macintosh terms 1,024-x-768-pixel resolution. This means that when viewing PowerPoint presentations you get great detail and clear text. If you connect the LP 335 to a VCR for corporate videos – or a little extracurricular activity – the image is smooth and sharp.

One problem with data projectors has always been the noise they make. The brighter the light source, the hotter they get – and that means a big fan for cooling. I don't know quite how InFocus has achieved it, but in our test we couldn't hear the projector over the air conditioning.

The DLP technology behind the LP 335 is incredible. The light is bounced off a chip – not unlike a RAM chip – that is coated with thousands of microscopic mirrors. Each one is controlled by the video source, and can be turned on and off thousands of times per second. The light is then directed through a colour wheel and on to the lens. There was, however, one effect from this that was a little strange. If you were very close to the screen and moved your eyes from one corner to the other quickly, a strange rainbow effect from the spinning colour wheel became visible. But this isn't a serious flaw, and the effect disappears when the screen is viewed from further back.

The best feature of the LP 335 is that it's small. At just 2.5-inches thick and the size of a piece of A4 paper, it's easily carryable – not luggable like older models. This makes it more likely to be used frequently, so a company will get its money's worth – even if that means employees use it to watch the football at home.

Macworld's buying advice

The LP 335 is the smallest, brightest and sexiest projector I have seen. Unfortunately, the price puts it out of my reach as an executive toy, but businesses will get good use out of it. It's not so heavy it'll break your back, so it will be used much more than older, heavier machines.

David Fanning

Weight to go

The InFocus LP 335 weighs under 5lbs and has a brightness of 1,000 ansi lumens. It's also small – at only 2.5-inches thick and the width and length of a piece of A4 paper.





Three-megapixel digital cameras tested and rated



Editors' choice:

Nikon CoolPix 990

The 990 looks similar to last year's 2.1-megapixel CoolPix 950, but the body is completely redesigned, with improved control-positions and a better card-housing. The lens and flash-head rotate, so you can angle the LCD monitor for the best viewpoint. An external flash is supported through an interface plug and optional mounting bracket. Fully automatic functions are supplemented with full-manual controls for exposure and focus – including five autofocus and meter-target zones. The lens has excellent close-up abilities – focusing to 20 mm – but shows marginal barrel-distortion at its widest extent, and a new diaphragm gives proper f-stop settings. The user interface is a bit fiddly, but common settings can be assigned to two programmable buttons.

Macworld's buying advice At £849 (inc. VAT), this is the priciest camera tested, but the best in this class – by virtue of its image quality and professional control-set. At last, a digital camera with full exposure- and focus-controls.

Canon PowerShot S20

A compact, pocket-friendly camera – the lens retracts when you switch off. This is basically a 3.34-megapixel version of the earlier 2.1-megapixel S10, differing only in the sensor and the gold-tinted colour scheme. The 2.1 zoom lens was not



particularly sharp in my tests. Digital-zoom settings of 2:1 and 4:1 worked well, but a 3:1 optical zoom would be preferable. The camcorder-style Li-ion rechargeable battery has a low capacity between charges and there's no support for external flash. Exposure override controls are basic, but there

are useful built-in panorama and 2-x-2 image "quilting" features to increase image resolution, with excellent alignment guides in the LCD monitor. Multiple images are joined in the excellent PhotoStitch software supplied.

Macworld's buying advice The software is the best aspect of this camera, and it's also a neat shape. It is, though, let down by its lens and poor battery life. The controls are also a tad basic.

Casio QV-3000

This model has an excellent Canon 3:1 zoom lens: it's very sharp and the f/2 maximum aperture is the widest in this class. Casio's user-interface is good, with a multi-function selector wheel, several dedicated function buttons, and a clever on-screen virtual-control wheel.

Multi-image panoramas are supported – landscape format

continues page 58 ➤

Digital cameras: the lowdown

This year's crop of 3.34-million pixel (megapixel) digital cameras marks the point where professionals and keen amateurs can take these sub-£1,000 devices seriously. Last year's 2.1-megapixel devices were nearly there, but fell between two stools: too much resolution for Web images, but not enough for decent prints. The benefit of higher resolution is that more detail can be captured, meaning you can print pictures larger before fuzziness and pixelation creeps in. A 3.34-megapixel image gives an 8.9MB RGB file once decompressed. This is fine for A5 or 5-x-8-inch prints on a 600/720dpi photo-quality printer, and more than enough for the smaller 5-x-4-inch 'enprint' sizes that conventional photo processors offer. You could even stretch it to A4, at the expense of some sharpness.

There's more to a good digital camera than its pixel count, though. All the cameras here, except the Fuji, use the same Sony-made 3.34-megapixel CCD (charge coupled device), yet image quality varies widely. Factors include lenses, signal processing and file-compression ratios used. The best lenses are found on the Nikon, Olympus and Casio.

These new-generation cameras offer genuinely useful electronic features. All but the Canon and Ricoh have manual-exposure overrides that use the conventional values of shutter speeds in fractions of a second and apertures in f-stops, rather than vague +/- EV settings. A selectable choice of light-meter patterns is now common, including spot-metering for precise readings of small areas. Several have manual-focusing overrides. All have automatic white-balance controls to avoid colour casts, and one or two include a manual feature, set by placing a white object in front of the lens.

Function buttons

All but the Canon S20 can capture short, low-resolution video sequences for export as MJPEG files. The frame rates and image quality are poor compared with a proper DV camcorder, so you'd only use this for visual note-taking. Dedicated function-buttons are also important. You often need to change settings quickly on a camera to capture fleeting events, and the last thing you want is to have to wade through layers of on-screen menus.

The lure of digital cameras is their immediacy, thanks to built-in TFT monitors. Being able to preview images and play them back seconds after pressing the shutter means you know right away if a pic has worked, or if it needs to be re-shot with different settings. If you're photographing people, they like to see results straight away. You can also download pics directly into a computer, with no waiting time or paying for film processing.

Any images you want to keep can be stored on a computer disk or CD, so you can wipe and re-use the camera's memory card. Although cards are expensive, you actually save money, as there's no film and processing costs.

On the other hand, these 3.34-megapixel models are expensive, given that the £500 to £800 you'll pay would buy a high-end 35mm SLR film-camera with one or more interchangeable lenses, and a powerful external flash gun. No digital camera in this price range offers interchangeable lenses, though some take screw-on wide-angle and telephoto adaptors. Only the Epson, Nikon and Olympus models can control external flashguns, which is important to keen photographers.

If quality matters more than immediacy, it's worth considering sticking with film and buying a dedicated 35mm film-scanner to digitize your pictures – many offer six-megapixel resolutions. Some film processors now offer scanning as part of the deal.

All cameras tested come with either 8MB or 16MB CompactFlash, or SmartMedia removable memory cards. An 8MB card will hold only about 12 full-res images, and just one image if compression is switched off. Extra cards cost between £16 and £32.

These cameras come with built-in USB ports, which plug straight into USB Macs. Slower serial cables are included for older Macs by all except the Fuji 4700 and JVC GC-X1. PCMCIA adaptor cards are available for laptop Macs. Some printers can now accept memory cards directly, with no need for a computer to open them. All these cameras can also display stills on a PAL television.

Simon Eccles



Casio class

The Casio QV-3000 has an excellent Canon 3:1 zoom lens and its f/2 maximum aperture is the widest in this class.

only though – with an excellent image-overlap preview for accurate alignment, and in-camera previewing of the blended results. Macintosh users will need a third-party app for image-stitching, such as MGI's PhotoVista.

Macworld's buying advice This is an excellent, if bulky, camera, that's let down only by its lack of support for external flash, its Windows-biased software, and poor styling. But it's good value and has a great lens. Overall, a fine camera.

Fujifilm FinePix 4700z

This palm-sized camera uses Fuji's own 2.4-megapixel Super-CCD. Quality is comparable to the true 3.34-megapixel models, if not as sharp as the Casio, Nikon and Olympus models. Images are noisier too. The pop-up flash is a tad marginal, and there's no external-flash support. The user-interface is useful, with the option to preview images before writing them to card. Pre-programmed modes cover portraits, landscapes and night scenes, and there's a manual mode too. Video capture and playback are good, but it can only download via USB.

Macworld's buying advice Clever packaging and a good feature-set, but not a pro-level camera.

JVC GC-X1

You can use this as a normal hand-held camera, but there are also three "pro-still" modes that attempt to overcome CCD quality-limitations – by taking several images in rapid succession with different settings, then merging them into one. A tripod is needed to prevent movement. 6M mode blends two pics with the CCD, reducing the need for colour interpolation, but you have to look hard to notice any improvement. Dynamic Range exposes two pics to capture detail in the lightest and darkest parts of the scene, though results can look rather flat.

Noise Reduction is for dark scenes prone to random-coloured noise. Six shots are taken and the noise averaged out.

This really does work. The 2:1 zoom lens isn't particularly sharp, but does include an excellent close-up mode. 160-x-120 pixel movie-capture is included, but quality is very poor. The standard memory card is only 8MB, yet 16MB is recommended for the Pro-Still modes.

Macworld's buying advice

The Pro-Still controls are reasonable, but otherwise, this camera is merely adequate.

Epson PhotoPC 3000

The HyPict interpolation mode boosts resolution to 2,544-x-1,904 pixels from the standard 2,048-x-1,536. The 3:1 zoom lens is OK, but less sharp than Nikon/Olympus. The autofocus and automatic exposure are almost foolproof, and there's a good set of manual override controls.

A standard hotshoe accepts an external flashgun. A daunting array of buttons are arranged around the LCD, but they work well in conjunction with on-screen menus, which point to the appropriate functions.

Continuous-shooting mode lets you shoot short bursts of 1.5 SuperFine quality or Standard quality images per second. There's an interval-shooting mode that automatically takes shots at anything between ten-second and 24-hour intervals. You can combine these to make decent time-lapse movies.

Macworld's buying advice A good all-round camera with excellent controls, plenty of features and decent software. It has everything you are likely to need from a digital camera.

Olympus Camedia 3030Z

Based on the earlier 2.1-megapixel 2020Z, but with a cool black body and expanded feature-set that's a close rival to the Nikon. Overall image-quality is very good.

The lens is very sharp, with excellent macro abilities and the manual-control set is extensive.

The user-interface could be better, yet the on-screen exposure information is clear.

A tiny IR remote control unit is supplied to trigger the shutter as an alternative to the self-timer and a burst-mode takes five pics in a second, then pauses to save them. An interface plug and optional bracket will connect to an Olympus FL40 external flash gun.

The built-in panorama mode produces multiple images, which can be stitched automatically by Olympus' software – if you use its own-brand memory cards.

Macworld's buying advice A great full-function digital camera that is only slightly outperformed by the Nikon.

Ricoh RDC-7

The RDC-7 has an unusual flat design with a clever fold-up monitor that can be swung round and up for a variety of viewing positions. There are two shutter buttons, for vertical and horizontal operation. This is the only camera tested with built-in memory for image storage – there's 8MB. There's also a slot for a SmartMedia card, which isn't included. The 3:1 zoom lens features an amazing macro that focuses as close as 10 mm. There's a manual focus but there are no override controls – or even readouts – for shutter and aperture, and no external flash support. Stills and movies can be recorded with or without sound.

Macworld's buying advice The RDC-7 has excellent packaging and lots of gadgets, but has poor exposure overrides. **Simon Eccles**



Ups and downs

The pro-controls of the JVC GC-X1 are welcome, but fail to overcome the quality limitations of its CCD.



Three-megapixel digital cameras compared

MANUFACTURER	MODEL	PRICE	STAR RATING	MEMORY	REMOVABLE MEDIA	OPTICAL ZOOM	FOCAL LENGTH (mm)	TELEPHONE	URL
Canon	PowerShot S20	£694	★★★/6.1	16MB	CompactFlash I & II	2x	32-64	0800 616 417	www.canon.co.uk
Casio	QV-3000	£599	★★★★/7.4	8MB	CompactFlash	2x	38-115	020 8450 9131	www.casio.com
Epson	PhotoPC 3000	£799	★★★★/7.1	16MB	CompactFlash I	3x	34-102	0800 289 622	www.epson.co.uk
Fujifilm	FinePix 4700z	£699	★★★/6.9	16MB	SmartMedia	3x	36-108	020 7586 5900	www.fujifilm.co.uk
JVC	GC-X1	£699	★★★/6.6	8MB	SmartMedia	2.3x	37-86	020 8208 7654	www.jvc.co.uk
Nikon	CoolPix 990	£849	★★★★/7.7	16MB	CompactFlash I	3x	38-115	0800 230 220	www.nikon.co.uk
Olympus	Camedia 3030Z	£799	★★★★/7.6	16MB	SmartMedia	3x	32-96	020 7253 2772	www.olympus.co.uk
Ricoh	RDC-7	£699	★★★/6.6	8MB*	SmartMedia	3x	35-105	01782 753 300	www.ricoh-cameras.co.uk

*Built-in memory.

All prices include VAT at 17.5 per cent.



Entry-level graphics tablet

Graphire Mouse and Pen

Manufacturer: Wacom www.wacom.com

Distributor: Computers Unlimited
020 8200 8282

Pros: Accurate mousing; two buttons; pinpoint accuracy; pressure-sensitive pen. AutoCAD compatibility.

Cons: Pen falls out of the stand; comes in old iMac colours.

Price: £85 (including VAT)

Min specs: USB Mac.

Star Rating: ★★★★★/8.3

In the past, graphics tablets have been the domain of serious illustrators and architects. Now, Wacom – long-time leader in this field – has brought out a tablet for the rest of us. The Graphire is available only in old iMac colours, before the new range was introduced by Steve Jobs at Macworld Expo in New York (see page 70).

The Graphire tablet includes a pen and a cordless mouse – it's the USB tablet that's connected to the Mac. The

mouse has two buttons and a scrolling wheel. I've been using a similar – but cord-tethered – mouse for over a year now. After getting over the initial revulsion of the Windows-like approach of the two buttons and a scrolling wheel, I quickly became addicted. Wacom's mouse boasts a 1,000dpi resolution, and any ball-driven mouse will seem dull and inaccurate once you've used the Wacom mouse.

The adds another dimension to your work, especially if you can draw. Even the novice can have fun, messing about with natural-media tools that take advantage of the pressure-sensitive nib.

In the hands of anybody with artistic flair it's an impressive tool. Even though the active area of the tablet is only 128-x-92mm, there's ample space for drawing and painting.

Unless you're tracing over an original image, bigger A4 tablets are unwieldy to use. If you think about the area that you use for your mouse it isn't anything near A4 size.

The pen took some time to get to grips with. There is a rocking switch that can be programmed with short cuts. I'm not sure if my cack-handedness was responsible, but I had trouble getting

to the switch. It was too far up the barrel of the pen.

Another minor gripe I have is that the detachable pen-stand doesn't hold the pen firmly enough; the slightest nudge had the pen rolling off the back of the desk.

Macworld's buying advice

I have some quibbles with the set, but nothing that would stop me buying it. Although £85 is more than you would normally expect to pay for a mouse, you do get much more for your money. I use the mouse ten times more often than the pen, but it's still good to have the pointer available.

There are rumours that Apple has a handwriting-recognition application in the pipeline, which presumably would use a tablet. Perhaps one day this could even replace a keyboard.

David Fanning



Flair game

This Graphite model goes with the new Macs, but the old iMac colours remain in third-party peripherals only.



Font-management utility

Suitcase 9

Publisher: Extensis

www.extensis.com

Distributor: Computers Unlimited

(020 8358 5857)

Pros: New user-interface; good font previews; enhanced Suitcase 9 XT; online font-search facility.

Cons: Memory hog; some applications have to be relaunched to see newly opened fonts; Suitcase 9 XT incompatible with QuarkXPress 3.

Min specs: Mac OS 8.5 or later; 32MB RAM.

Price: £79; upgrade from Suitcase 8, £36 (both prices exclude VAT).

Star Rating: ★★☆☆/6.8

Launched in 1987, Suitcase has grown into a fully fledged, font-management system. While Suitcase 8 added many features and retained much of the previous user interface, Suitcase 9 now takes the package an important stage further – including Mac OS 9 compatibility.

Previous versions of Suitcase worked on a set basis – if you wanted to turn on a font, it had to be part of a set.

A fundamental difference in Suitcase 9 is the ability to make individual fonts active, leading to a complete change in the user interface. The main dialogue box now sports a toolbar – giving immediate access to the six most commonly used functions – windows for sets and individual fonts, and a separate panel for previews of selected fonts.

Adding fonts to Suitcase is a drag-&-drop affair – just grab a folder of fonts and drop it on to the fonts window. Each typeface is then listed individually with information on type, foundry and suitcase name. Adding fonts to a set is simple, and, once sets have been created, it's possible to revert the dialogue box to a sets-only display – just as with previous incarnations of Suitcase.

Preview pluses

Suitcase 9's font preview is about as good as it can get. Typefaces and sets can be shown in one of four ways: Waterfall, with its cascade of selected letters; ABC123 as uppercase, lowercase and numerals; Paragraph through a custom

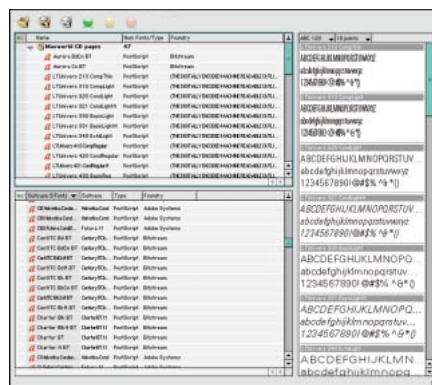
text selection; or QuickType for text typed on-screen. You can print these fonts too.

Suitcase 9 comes complete with two additional applications. MenuFonts is a system extension that groups typefaces into families, and shows them in their true face within almost any program's font menu. Usefully, this also shows whether a font is PostScript or TrueType. Suitcase 9 XT, a QuarkXPress 4 XTension, opens and closes fonts as XPress documents require them, and opens fonts required by EPS images. Also included is an online type-foundry search facility.

Macworld's buying advice

Suitcase 9 offers many commendable features, including the new user-interface, font previews and an enhanced XPress XTension. However, it has some serious failings.

For starters, it's a painful memory hog, adding a whopping great 13MB to the Mac OS RAM requirements over a similar Adobe Type Manager Deluxe 4.6 set-up. Most of this appears to be taken up by the Suitcase 9 Font Engine system extension and places in question the 32MB minimum-RAM requirement. It's nigh on impossible to run a Suitcase



In with the new

Suitcase 9's user interface includes a toolbar and separate panels for sets, fonts and typeface preview.

9/QuarkXPress 4/Mac OS 9 combination on a machine with less than 128MB of RAM. There is also an unacceptably long delay on start-up on machines with numerous fonts.

Another serious problem is that fonts opened don't automatically show up in launched applications, such as QuarkXPress and Adobe Illustrator, Photoshop and InDesign. In order to see new fonts, the applications have to be closed and relaunched. Extensis is aware of this and is currently working on a fix.

Users with loads of typefaces need a font-management system. But Suitcase 9's enhancements are overshadowed by its problems, especially as Adobe Type Manager Deluxe 4.6 is cheaper.

Vic Lennard



Adobe Type Manager Deluxe 4.6 / Adobe Type Reunion 2.6

Publisher: Adobe (020 8606 4001) www.adobe.co.uk

Pros: Now includes online help.

Cons: No support for Mac OS 9 Multiple Users. **Min specs:** ATM Deluxe 4.6: Mac OS 8.1 or later, 16MB RAM. ATR 2.6: 8MB RAM. **Price:** £45 (excluding VAT); upgrade from version 4.5, free download (also on this month's CD).

Star rating: ★★★★★/8.8

Last year, Adobe Type Manager Deluxe 4.5 added many features to ATM Deluxe 2.0.3 – including compatibility with Mac OS 8.6. This failed completely under Mac OS 9, leading to a temporary bug-fix in version 4.5.2. The latest incarnation, 4.6, has no new major features, but now offers online help – useful if you've purchased the online version without a paper-based manual. Previously, you had the choice of checking for font ID conflicts, or not. This has now been removed from the preferences, leaving the Finder to resolve conflicts automatically.

Adobe Type Reunion 2.6 is more robust. Some users have noted a possible clash with QuickTime 4, though I couldn't reproduce this. Also, Type Reunion automatically disabled when running applications that possess their own font menu facilities – including most Adobe products.

Macworld's buying advice

At little over half the price of Suitcase 9 (see above), and with a very similar user interface, ATM Deluxe is the better buy at the moment: it can open and close fonts globally or per application, uses little RAM and works invisibly.

Vic Lennard



Genesis V2Pro

Publisher: Future Fantastic www.futurefantastic.com

Distributor: Freehand (01483 894 000)

Pros: Wide range of effects; loads of pre-sets. **Cons:** Complicated interface.

Min specs: Photoshop 4.0 or later. **Price:** £75 (excluding VAT) **Star rating:** ★★★★★/7.8

Calling all sci-fi junkies – Genesis V2 Pro is what you've been waiting light-years for – a Photoshop plug-in that can create all your favourite *Star Trek* effects.

You'll no doubt revel in its mathematically intimidating interface – though if you've got the time and patience to experiment a little, it allows a high level of control and editability. Also, there's loads of pre-sets if you're in a rush.

The plug-in includes sophisticated lens flares, glows, fire and smoke effects, explosions, flashes, image warps and a massive number of combinations of effects that can be applied to an image in one hit. It also includes an interactive-preview window and fast rendering when effects have been applied.

Macworld's buying advice

At £75, Genesis is worth it. For users who want super-stella space scenes with rocket trails, nebulae and other weird phenomena, then it's a must buy. There's a downloadable trial version at www.futurefantastic.com.

James Walker





MP3 player

MpTrip

Publisher: easybuy2000.com

Pros: Cheap media; hours of music from one disc; good quality sound.

Cons: Fiddly; a CD recorder is needed.

Min specs: A CD recorder with Adaptec Toast.

Price: \$115, plus shipping and import duty.

Star Rating: ★★★★★/7.0

The fact that you can shrink an audio file from a CD to a tenth of its original size spawned a host of portable MP3 players. The majority of them use solid-state memory, such as CompactFlash or SmartMedia cards, to hold the music. This makes for terrific cigarette packet-sized players, but also horribly expensive media.

The MpTrip player forgoes the convenience of being a tiny player, but shimmies around the problem of expensive media. It does this by taking the normal DiscMan form-factor, but plays MP3s from a CD-ROM instead of an audio CD. This makes it cheaper to use, but requires a CD recorder. If you already have one, it's an inexpensive way of getting portable with MP3 files.

However, the conversion is complicated. First, Adaptec Toast is needed to make the CDs, and it must be set up to burn the CD in the correct format. Specific Mac instructions are available on the easybuy2000 Web site.

There are many ways to get MP3 files – some legal, some not. The most

legitimate way is to take your own CDs and convert them. Toast can be used for this, as can many shareware applications that are around. Once the CD is converted, the resulting files will be about a tenth of their original size, so around ten CDs-worth of music will fit onto a single CD ROM.

So far so good, but there are issues with dealing with so many tracks on one disc. Unless you're happy to listen to ten hours of music at once, you will need to skip forward and backwards. This is fine for a normal CD, but when using MpTrip, there could be as many as 200 tracks, and clicking to track 199 is a drag.

Sound quality is remarkably good. When we tested it using the supplied earphones, 50 per cent of people preferred the sound of MpTrip to a more expensive CD player playing the original CD. I only tested it on four people, so the results aren't conclusive, but are good enough to show that the quality is at least close. When we played the music through speakers,



however, the difference was noticeable, though only to our resident audio geeks.

Macworld's buying advice

MpTrip is a great idea, but it has some problems. Once you make a CD-ROM it can't be edited, so if you want a different selection of music, another CD must be made. However, the sound is impressive, and having ten hours of music to hand is a great feature. The price is right, so it's definitely worth trying.

David Fanning



Colour-correction utility

EZcolor 1.5

Publisher: Monaco

www.monacosys.com

Distributor: Visualeyes
(020 7836 3004)

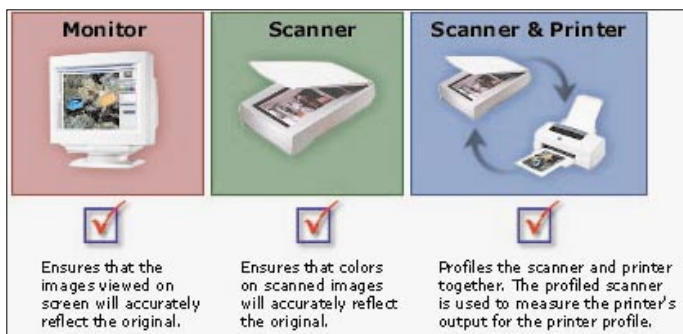
Pros: Affordable, simple to use and effective colour-accuracy; printed manual; now a workplace solution.

Cons: Transparency profiling costs extra.

Min specs: Mac OS 7.6.1; 24-bit display board; ColorSync 2.5.1; QuickTime 3.0, Photoshop 5.0, PageMaker 6.5 or QuarkXPress 4.0.

Price: £375 including Sensor; £199 without (both excluding VAT).

Star Rating: ★★★★★/8.9



High profile

EZcolor profiles are saved in the ColorSync Profiles folder in your System folder, and are used in ICC-compatible applications, such as Photoshop 5.0, PageMaker 6.5, or XPress 4.0.

Frustratingly, what you see isn't always what you get when it comes to colour. Unless you're clued-up about colour-management, it's likely that your scanner, monitor and printer interpret colours differently.

Graphics professionals use expensive colour profiles with Apple's ColorSync – but EZcolor is for those who want colour accuracy with the minimum of expense.

It works by building custom ICC (International Color Consortium) profiles for your monitor, scanner, and ink-jet or laser printer.

These profiles provide a description of each device's range of reproducible colour. EZcolor compares them and makes the necessary adjustments, to ensure that colour is interpreted accurately across all devices throughout your workflow.

The app walks you through the

profile-building process in a point-&-click, screen-by-screen fashion. You can have all profiles completed in 30 minutes.

The most important improvement with version 1.5 is that it's no longer a product good for just limited office use and those with a scanner and ink-jet at home.

Now, it generates CMYK profiles, as well as those for RGB, making it an entry-level solution for professionals.

There are two options for building a monitor profile: manual or automatic. For the latter, you'll need to buy Monaco's Sensor. This device sticks to your screen with suckers, and colorimetrically calibrates your monitor. It does this by analysing swatches of colour generated in EZcolor's monitor-profile screen. It's more accurate than generating a profile manually, because it doesn't rely on subjective visual judgement.

This gives you more confidence when "soft proofing" – using your monitor to simulate output.

To create a scanner profile, you have to scan in the supplied test-card-like IT8 colour target. Be careful with this target, because if you tear it, it will cost over £50 to replace. Scanner profiles reduce the need for image clean-up, by capturing colour accurately in the first instance. I was creating a profile for an Agfa Snapscan e50. Although scanners can be operated from within EZcolor, Agfa's ScanWise software kept crashing it – and I ended up scanning-in the colour target outside of EZcolor and importing it to create the scanner profile. A 35mm transparency target is available, but it costs around £60 extra. Ouch.

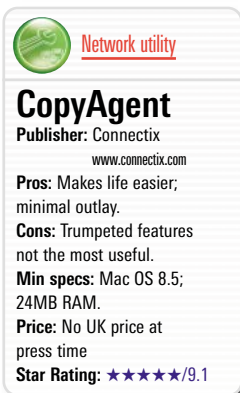
To create a printer profile, you print a supplied colour-target TIFF, and then scan this in using your newly profiled scanner. You can create a profile for each type of printer paper being used.

It's in Photoshop that the profiles come into their own. They allow for a printed image to be matched to an original while being viewed accurately on-screen.

Macworld's buying advice

EZcolor is for anyone who wants maximum colour performance with minimum fuss. With its new CYMK functionality, version 1.5 also provides a low-end alternative to rival expensive and in-depth colour-profile products.

Sean Ashcroft



On schedule

CopyAgent allows for files to be copied across a network at a predetermined time.



CopyAgent automates and streamlines back-ups, as well as speeding-up your work-rate. The great thing about it is that, unlike many file-management utilities, it caters for individual users, rather than for vast networks.

At *Macworld*, we fire files across a 10BaseT ethernet network. My machine is at the centre of this data maelstrom, and the process can be painfully slow – especially as traffic peaks as deadline looms. Anything this affordable that speeds up the process is to be welcomed with open arms.

Speed boost

Connectix claims that Network Copy, which ships with CopyAgent, is 200 per cent as fast as the OS at copying across a network. My file-copying time trials showed that transfer times were more like 125 per cent as fast. Although well shy of Connectix's extravagant claim, this is still a speed boost worth having. The other good thing is that, by copying a Network Copy extension to the System folders of your network colleagues, the same speed-boosts apply when they copy files to you.

Another appealing feature is

Copy Scheduler. This allows you to specify what, where and when you want to copy. For cyclical copying, this is ideal. We archive *Macworld* on CD every month, a process that usually sees me trawling through people's machines to collect relevant files from that month's issues. With Copy Scheduler, I can set it to perform this task at a specified time each month – so it can then copy files simultaneously while I'm at lunch. Just make sure everyone you're copying from has File Sharing switched on.

But what I liked most about CopyAgent was not its eponymous copying prowess, but its keyboard-shortcut functionality – courtesy of TurboKeys. Like CopyAgent, TurboKeys appears as a Control Panel, via which shortcuts can be created for repetitive tasks. These can include toggling through applications, as well as inputting text – such as work and home addresses, and the current day's date.

Now, I can switch from any one of my many applications by hitting the alt key plus the letter that the given app begins with.

I'm also using TurboKeys to speed-up my HTML work. For example, when inputting HTML script for links within Macworld Online content, I now hit alt-C, instead of manually typing it in. A word of caution: make sure your keyboard shortcuts don't mirror those you already use. If you use ⌘-X for opening XPress, for example, then it will open whenever you use the usual shortcut for cutting text.

TurboKeys also allows for drop menus to be accessed with user-configured key combinations. I can't see the point of this, because most menu items already have keyboard shortcuts.

Connectix also makes great play of CopyAgent's Synchronize, SmartReplace and SmartMerge features, but I found these less useful. When copying something to a location that's already home to an identically named file, these features are offered as extra options to Mac OS's Cancel or Replace.

Of the three, Synchronize is the best – making certain that identical folders compare and copy content by date and time, so that the the two folders contain only the most recent versions of files, as well as any additions.

SmartReplace copies only files that are new or that have changed, while SmartMerge leaves files and folders in the destination folder – even if they have been removed from the source folder.

CopyAgent also offers Wastebasket features, that allow you to select items to be trashed, as well as making deleted files irrecoverable.

Macworld's buying advice

If your job involves production work across a network, then you stand to get most out of CopyAgent. However, if you long for shortcuts for routine and massively repetitive tasks – and are not a master AppleScripter – then you'll also welcome much in this utility.

Sean Ashcroft



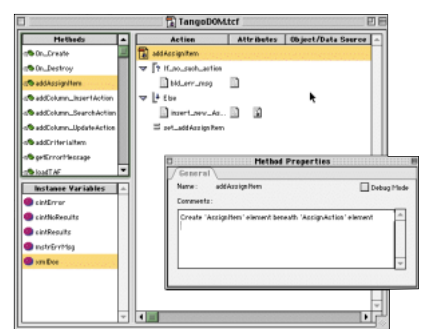
All Web tools need to do two things: provide high-level drag-&-drop actions that generate low-level code, and ensure that using those tools isn't more cumbersome than writing the HTML yourself.

For simple sites, plain HTML works fine; for splashy multimedia sites, Adobe GoLive and Macromedia Dreamweaver are handy tools. But if you need to post a product catalogue or a database that's already in ODBC-compliant format, the tool of choice is Pervasive Software's Tango 2000. This Web-connection tool for databases lets you generate actions by selecting a few icons that connect items in a database to entries on a Web page. As a special-purpose Web tool, it simplifies a critical business function.

The Tango 2000 package consists of Tango Editor – a modern editor adapted to visual programming with Tango icons – and Tango Server – middleware that translates Tango action file (.taf) instructions into code for standard Web servers. Tango's traditional .taf files

also now translate automatically into XML for distribution across platforms – and can include Java and C++ modules. But Tango's real strength is that Pervasive has anticipated many standard business needs and packaged the necessary code as icons for use in assembling .taf files. With a few icon selections in the graphical user interface, you can program operations such as selecting an item from a remote database, ordering an item, and updating the inventory database.

Tango 2000 has some nice extras – a thorough tutorial and commercial-grade examples. Annoyingly, the Mac suite doesn't include Pervasive's excellent Web Analyzer for real-time traffic analysis. Another complaint is that Web users with slower connections who access Tango 2000-generated pages sometimes see bits of .taf text files as the graphics down-load.



Iconic control

The icons atop the Tango Editor window are part of a programming language that lets you code Web database tasks just by selecting elements.

Macworld's buying advice

Tango 2000 is ideal for posting catalogues to Web sites and handling order and inventory tasks. Its relatively simple programming scheme also makes it easy to modify transaction processing once you've established a site.

Charles Seiter

Desktop decisions

Apple has revamped its entire range of table-top Macs.

New Macs, displays, mouse and keyboard

By Simon Jary



There were plenty of rumours prior to Steve Jobs' keynote speech at July's Macworld Expo in New York. Some of them we'd heard before, and will no doubt hear again. But no one expected Apple to revamp its entire desktop Mac range... or release a revolutionary new model. The Power Mac G4 range of professional desktops now features two multiprocessing models that Apple claims are as fast as a Windows workstation running a 2GHz Pentium III – if such a thing even existed. The iMac range has been refined, with a new DV + model, new colours and faster speeds. And Apple has completed a quite amazing feat of engineering, by compressing a Power Mac G4 into a stunning eight-inch-square cube. All come with a fantastic new optical mouse and full-size keyboard. Read on...

▶ page 72



Power Mac G4 Cube

Manufacturer: Apple
(0870 600 6010)
www.apple.com/uk

Pros: Stylish; powerful; maximum office-cred points; ultimate home computer; iMovie 2.

Cons: Expensive with new displays; limited upgradability; no PCI slots.

Price: 450MHz: £1,249
500MHz: £1,599
(both excluding VAT)

Star Ratings:
450MHz: ★★★★★/8.5
500MHz: ★★★★★/8.4

Read our **WORLD EXCLUSIVE PRODUCTION UNIT TESTS** on page 74. All other magazines' Cube tests to date have been of pre-production models.

In the trade, computers are often referred to as "boxes". In reality most of them are utilitarian beige-plastic towers riddled with drive slots, fans and connection ports. Apple has designed the most elegant 'box' for its Power Macs – but the slots, fan and ports are still there for all to see in its ultra-user-friendly Graphite mini-tower case (see page 78).

Now, Apple's techies and industrial designers have created a totally new look for a personal computers. The Power Mac G4 Cube *really* is a box – an eight-inch cube, of classic design and engineering flair, suspended in a crystal-clear enclosure. It's the first of a new breed of small-footprint/high-power fully digital PCs designed for people who want more than an iMac but don't need all the Power Mac's expandability.

The cube shape has been seen before. Steve Jobs' NeXT computer was cube-shaped. And Cobalt Networks' Linux-based Mac-compatible Qube Internet server measures 7.25 inches and even includes a PCI slot – see Reviews, October 1998. But Apple's G4 Cube is not just a Net server. It's a fully fledged personal computer with sophisticated video-out options, 450MHz or 500MHz PowerPC chip, AirPort wireless technology, speakers and a DVD drive.

Art & design

Apple calls the G4 Cube "the perfect marriage of art and engineering". Not only has Apple fitted the innards of a Power Mac into one-quarter of the space, but it has raised the bar on applied design. The G4 Cube is a real beauty – maybe Apple designer Jonathan Ive's finest yet.

The enclosure uses the same crystal-clear plastics as the Cinema Display and the Power Mac G4's transparent handles. It eschews ugly front drive-slots for a single unobtrusive slot-loading DVD drive on top. The full set of connector ports – USB, FireWire, modem, ethernet, VGA, etc

70 – is hidden underneath the Cube. In fact, the Cube is almost totally smooth. However, expect the ideal look to be spoilt when you lump extra Zip and CD-R drives next to it. Apple extends the Cube look with its speakers, which look like see-through cricket balls but sound fantastic. The new Pro Keyboard and Pro Mouse also reflect the Cube's cool design, and are a real bonus.

Engineering feat

Apart from the sheer brilliance of compacting a Power Mac into such a small space, the Cube is a marvel of innovation. Analogue technology is restricted to the power supply, modem and VGA port. And the computer is virtually silent, because there's no fan needed to cool the interior components. Apple has instead used a thermodynamic central cooling chimney to chill out the chip. According to Apple, the Cube produces about 19 decibels; by comparison, a person whispering in a quiet room from 15 feet away generates 30 decibels.

Apart from the fiddly original iMac, we've become used to Apple building its computers with easy-to-get-at insides. A whole side of the Power Mac, for instance, opens up to reveal the computer's logic-board and expansion slots. You get inside the Cube by turning it upside down, popping out a handle and lifting out the electronics. This is great, except that you'll hardly ever need to open up the Cube. The only expandable areas inside the Cube are the dedicated AGP 2x slot that holds the ATI RAGE 128 Pro graphics card, two PC100 DIMM slots and an AirPort slot. Still, the process is so cool that you'll be showing it off to friends and colleagues every few days anyway.

Apple made the Cube so small by exiling the power supply to the floor – which is a much better place for such equipment than sitting inside a computer warming everything up and making a racket.

Power packed in

Unlike the G3-powered iMac, the Cube uses a top-of-the-range PowerPC G4 processor – running at either 450MHz or 500MHz – so there's no skimping on performance. The Cube can also pack up to 1.5GB of memory, using four 512MB RAM DIMMs. As it ships with just 64MB of RAM, you'll need to add a whole bunch more. £110 will take you to 128MB, which is a far better starting point. It'll cost you about £3,000 to reach the maximum 1.5GB of RAM.

The 450MHz Cube we tested is actually faster than the old 450MHz minitower Power Mac G4, due to speedier graphics. Graphics power is provided by an ATI Rage 128 Pro graphics card with 16MB of video RAM – the same accelerator that's found in the latest Power Mac G4.

Audio oomph is provided by the harman/kardon all-digital 20W speakers. You also get a small digital amplifier with a stereo headphone jack. Real audiophiles will probably want to add an iSub subwoofer (another Apple-harman/kardon product) and maybe upgrade to SoundSticks (see Reviews, page 52), but these round speakers will be fine for the rest of us.

Unfortunately, the Cube is not a very upgradable machine. Third-party CPU upgrade makers do not produce upgrade cards that will fit the UMA motherboard's CPU daughtercard slot. Right now, this doesn't matter, as Apple already ships the fastest G4s available. However, when faster G4s become available, processor envy is bound to kick in for Cubists. As the Cube shares its daughtercard design with the Power Mac G4, CPU upgrades should be possible in the future.

Upgrading the bundled graphics card is another matter. The Rage 128 Pro is a standard, replaceable 2x AGP card, but lack of space inside the Cube rules out many third-party graphics cards – such as 3dfx's latest offerings – that won't fit in the enclosure. The 128 Pro is a fine card, but some may find themselves wanting more video power in the future.

Pro features built in

Hardware You'd assume that there isn't much room for features in the Cube. You'd be wrong. There's two USB ports, two FireWire, 10/100BaseT ethernet (upgradable to Gigabit Ethernet for £140), a 56Kbps modem, and a slot for Apple's AirPort wireless-networking technology. The Cube can also boast UltraATA/66 hard-disk storage of up to 40GB – although the standard 20GB disk is relatively slow at 5,200rpm compared to the 40GB's 7,200rpm. The hard drive can be upgraded to any drive that will fit in the 2.5-inch bay.

The slot-loading DVD-ROM drive features DVD-Video playback. Its roof-top positioning is a real treat, and is protected from dust by some neat sealing.

One sticking point is its lack of free PCI or AGP expansion slots. There aren't any. So if you're the type of person who needs to add third-party cards (high-end digital-video professionals or serious gamers, for example), the Cube is most definitely not for you. Most of what you'd want to add a card for is already included in the Cube, so this shouldn't have an immediate effect on many. Most Power Mac users do not add any cards – leaving the three slots empty.

There's also no room for a second internal hard drive or Zip drive. External drives can be added via the USB or FireWire ports, however.

Of course, you'll need to add a monitor. You can connect a standard VGA screen or go for one of the desirable new



Inner core
The Cube's case isn't actually a cube (it's 9.8-x-7.7-x-7.7 inches) because of the crystal-clear enclosure protecting the components. You get to the innards by simply lifting the cube from the case using the hidden handle on its base. Removing it, you feel like James Bond defusing a dangerous nuclear core.

DVD top-loader

The Cube's DVD drive doesn't poke out of the case, as in the Power Macs. Apple utilizes the new iMacs' slot-loaded drive, but places it on top of the enclosure. It might reinforce the Cube's resemblance to a single-person's toaster, but it looks and works just fine.

Power Mac G4 Cube – a wonder of art and engineering

Model	PowerPC G4 processor	Base RAM	Max RAM	Hard disk	DVD-ROM DVD-RAM	USB ports	FireWire ports	New mouse & keyboard	PCI slots	AGP 2x slot	AirPort compatible	Ethernet (BaseT)	iMovie 2 software	56Kbps modem
G4 Cube 450	450MHz	64MB	1.5GB	20GB (5,400rpm)	DVD-ROM	2	2	Yes	0	16MB ATI Rage 128 Pro	Yes	10/100 *	Yes	Yes
G4 Cube 500	500MHz	128MB	1.5GB	30GB (7,200rpm)	DVD-ROM	2	2	Yes	0	16MB ATI Rage 128 Pro	Yes	10/100 *	Yes	Yes

■

AirPort card and Base Station available for an extra £203 (exc. VAT). AirPort allows you to access the Internet without attaching the modem cable to your Mac, as well as network Macs wirelessly.

*

Upgradable to 1000BaseT ethernet for £140.

The G4 Cube – from bottom to top

10/100BaseT ethernet

Two 400Mbps FireWire ports

Lockable handle for lifting core

Two 12Mbps USB ports

Modem port

Power

Apple Display Connector (ADC); carries analogue and digital video, USB, and power

15-pin mini D-Sub VGA connector

Cool design Apple has removed the power supply (it sits by your feet) and keeps the rest of the Cube's components from heating up with this central cooling channel. You see right through the Cube to your desktop surface. The top-mounted DVD slot-loader refuses to let dust contaminate its delicate optical drive.

Just because it's small doesn't mean that the G4 Cube doesn't include all the necessary connectivity ports you'd expect to find on a professional workstation. To keep the Cube smooth and clean, Apple has positioned all the ports on its base – a very neat idea, indeed.

Apple displays (see page 75). Watch your wallet, though... Apple designed the Cube so it rarely needs to be switched off. The electronic power button doesn't actually turn off the computer, but merely puts it to sleep. To power down, you touch the button for five seconds. Even the new Pro Keyboard lacks a Power key.

Software Of course, the G4 Cube ships with the latest version of the Mac operating system, Mac OS 9.0.4. This opens up the world of Apple's free iTools services to you – email, easy Web-site creation, iDisk, etc. You'll also get iMovie 2 video-editing software (see Reviews, page 50), Palm Desktop, and the usual Web browsers and email clients. Apple should be congratulated on adding so much more to its products than any of the Windows PC makers.

Macworld's buying advice The G4 Cube is a wonder of miniturization. On looks alone, it's a whole new class of computer. In fact, with its DVD and digital audio, it looks like a high-end Net-connected home-entertainment system. With FireWire cable and iMovie 2

video-editor included, the Cube becomes an instant home-movie set-up for modern digital-camcorder owners.

The 450MHz G4 Cube costs £1,249 (ex. VAT), which is £100 more than the new 400MHz single-processor Power Mac G4. Cubists will need to do some damage to their bank accounts – a 450MHz Cube with 15-inch LCD Apple Studio Display costs £1,948 (£2,289 with VAT included). A third-party display would save cash, but spoil the looks somewhat. As the Cube doesn't plug the price gap between the iMac and the Power Mac, who is it for?

It's a must-have for the design-conscious computer buyer who doesn't need to load any extra cards. Business users are well catered for by the Cube's advanced features, as are most graphic designers and wealthy consumers. The Cube looks great in the office and much better in the home than a tower. It makes even the new iMacs look dated, and the Power Mac positively gigantic.

As even Apple isn't guessing, only time will tell who the Cube is aimed at. It's certainly the ultimate statement in designer PCs, and should find an immediate queue of eager



To many, the iMac is limited by its 15-inch display and inability to run a second, larger screen. As it's a Power Mac at heart, the Cube has no such problems. There are three matching Apple displays for the Cube, or you can hook-up a standard third-party monitor via the VGA port. These new displays also work with the new G4 Power Macs.

Cube owners won't want to compromise on looks, and will be happy that Apple has transferred much of its chic Mac design to its monitor range. All three new screens are clutter-free – with a single Apple Display Connector (ADC) carrying signal, USB and power from the Cube or Power Mac G4. The cable-clutter's still there – just not hanging out the back of the monitor. The ADC lets you turn the computer on and off right from a single power switch on the display. Each monitor also includes two USB ports for attaching further compatible peripherals.

If you don't need a Cube or new Power Mac, but love the look of these displays, you're out of luck until Apple sells the ADC separately – if it ever does. The previous Apple displays that had the DVI connector will work on the new Power Macs and Cube with the addition of an adaptor cable.

Flat mates The G4 Cube looks best with either of the two flat-panel LCD screens. Not only do you free-up another two-square feet of desk space, you get an outstanding piece of industrial design to stare at all day.

If you've got the cash, go for the marvellous 22-inch Cinema Display, which boasts a viewing area comparable to a 24-inch CRT (cathode ray tube) monitor (1,600-x-1,024-pixel resolution). At £2,799, it's no impulse buy – but you're guaranteed to win your colleagues' office jealousy.

The more budget-conscious can settle for the 15-inch flat-panel Studio Display that looks just like the Cinema Display and offers a surprisingly large canvas (1,024-x-768-pixels) considering the lack of footprint. It's not cheap at £699, but you do get your cool-cash money's worth.

Both the LCD displays feature touch-sensitive buttons that offer visual feedback (brightness, contrast, etc) as your hand nears the controls. Under testing, this feature appeared over-sensitive – anyone approaching a couple of feet from the screen could set-off the controls. Luckily, this doesn't affect the display's similarly flush button that can power on, put to sleep, or wake the Power Mac or Cube!

Because they do not have to change digital data to analogue, as CRT monitors do, these modern flat-panels are

all digital. This removes the possibility of conversion-led screen distortion and artifacts such as banding and jumpy pixels. LCDs hold their colour longer and experience much less flicker than CRT monitors, meaning less eyestrain for you at the end of the day. Other LCD advantages include no moiré patterns in your images and a 90 per cent reduction in energy consumption.

The images on these LCDs are sharper – at all resolutions – than that on the previous Apple Studio Display CRT, showing greater detail and crisper text.

The pictures of the LCD Studio and Cinema Displays don't do these monitors justice. If you think they look cool here, you're in for a nice surprise – when you see them in the fantastic plastic, they're simply beautiful.

Fat mate LCDs are not for everyone, however. Colour accuracy is not as good as a CRT. They can't reproduce as many colours, and so may not be best for designers who rely on such capabilities. When viewed from angles, you can notice subtle colour shifts – the more extreme the angle, the more severe the shift. Apple's LCDs perform a lot better with colour than many other manufacturers' flat-panels – but CRTs still win if colour accuracy is absolutely key to you.

The third new Apple display that looks good with the Cube – or Power Mac G4 – is the 17-inch CRT Studio Display. Although not a flat-panel, it does have Natural Flat Diamondtron screen to ensure image precision – eliminating edge distortion, improving focus and reducing glare. The Studio Display features internal ColorSync colour-calibration, as well as a Theatre Mode that automatically brightens the screen to enhance full-screen digital video. And Apple claims that you'll never have to re-calibrate this display as it remains forever accurate. This alone makes the extra spend worthwhile.

Macworld's buying advice You pay a premium for these stylish new Apple displays, but each is a top-quality performer in its category. It would be great if Apple made these available for everyone, but, at the moment, only new Power Mac and Cube owners get the goodies. If you can spare the expense, these screens are definitely the way to go. Otherwise, hook your Mac up to a third-party display and convince yourself that it's big money well saved. But, trust us, we'd really recommend you try to save up the readies for these top-notch monitors.

New displays

Apple 17-inch Studio Display

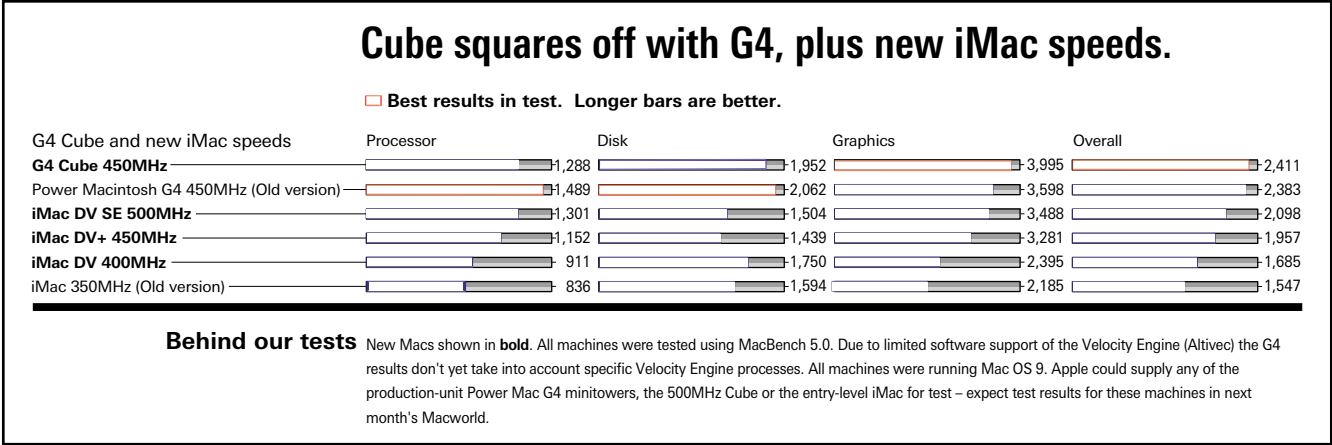
Manufacturer: Apple (0870 600 6010)
www.apple.com/uk
Pros: Funky style; ADC; ColorSync calibration; top-quality flat screen.
Cons: Expensive; large.
Price: £349 (excluding VAT)
Star Rating: ★★★★★/8.5

Apple 15-inch Studio Display

Pros: Cool style; top-quality flat-panel LCD; ADC; touch controls.
Cons: Expensive.
Price: £699 (excluding VAT)
Star Rating: ★★★★★/9.0

Apple 22-inch Cinema Display

Pros: Cool style; top-quality flat-panel LCD; ADC; touch controls; giant screen size.
Cons: Expensive.
Price: £2,799 (excluding VAT)
Star Rating: ★★★★★/9.0





Readers will remember my plea a couple of months back (Read me first, *Macworld*, July 2000) for Apple to upgrade its iMac range of personal computers with larger screens, CD-RWs, more colours and faster chips. This proved to be wishful thinking following Apple's announcement of new iMacs at New York's Macworld Expo. The new iMacs offer improvements in speed, price and colours, but otherwise remain the same. *Macworld* readers responded to my opinion column in their hundreds (see Letters, August 2000). Some wanted the G3 processor replaced by a speedier G4. Most thought the best improvement would be to remove the 15-inch built-in screen and replace it with a flat-panel LCD display. Apple might have left the iMac virtually untouched, but it has created the G4 Cube (see page 72) especially for these power-hungry, screen-starved consumers.

For all my advice on how to make the iMac even more tempting to potential customers, the new iMacs are still top-dog consumer PCs offering easy setup, fast speeds, high-end features and super software. A 17-inch screen would have persuaded many people that an iMac is enough for them, but many more would have rejected it as way too large and cumbersome.

Apple has subdivided the iMac line-up into four models, each available in various colours. When choosing your model, consider exactly what you want to do with it and

what you want it to do for you. Then ponder your possible learning curve and future needs. Email and Internet access might be all you need now, but is there a chance that desktop video editing will interest you once this computing lark is second nature?

All the iMacs share the same built-in 15-inch screen, which is enhanced for full-screen digital video by a Theatre Mode that automatically brightens the screen when necessary. This feature marks some clever, commonsense thinking by Apple. An 8MB ATI Rage 128 Pro graphics accelerator card is also standard across the range.

iMac – entry level

The original iMac launched two years ago was a revelation rather than a revolution. It stripped the personal computer of legacy components (ADB, SCSI, floppy drive) and concentrated on compatibility with tomorrow's technologies (USB) and innovative design. Its number-one focus was Internet access – hence its name, the iMac.

Apple's latest iteration of the entry-level PC is still called an iMac and still focuses mainly on the Internet. If all you want is a computer so that you can browse the Web, create a Web home page, send and receive emails, and use business applications – such as a word processing, spreadsheet, database and presentations programs – as well as play the latest games, then the basic iMac is for you.



If producing digital home movies or making music is in your mind (or might be), it is not.

The iMac hardly changes at all from the previous low-end model – except on three points. First, Apple has changed its colour from the rather murky Blueberry to a rich, deep Indigo blue. In my opinion, this is Apple's finest iMac case colour yet. Second, the hard drive is now a capacious 7GB – up 1GB from the previous model.

Third, and most importantly, Apple has slashed the entry-level price by £150 – the basic iMac model now costs just £649 *including* VAT. For a fully loaded PC this proficient, that is a real bargain.

The 350MHz PowerPC G3 processor is easily fast enough to handle all the tasks this computer is built for, so don't worry yourself on missing out on speed ratings (see page 74). The iMac ships with AppleWorks 6 application suite (word processor, spreadsheet, database, presentations, basic drawing and painting), both major Web browsers and email clients, and a couple of games. As it ships with Mac OS 9.0.4, it has access to Apple's wonderful free iTools services: KidSafe, Mail, iDisk and HomePage. Register your own name at Mac.com, exchange documents on iDisk, and make your own Web site photo gallery without touching a piece of HTML code.

The entry-level iMac, however, has no AirPort antennae, and so is not compatible with Apple's wireless-networking technology. Unless you're planning on linking up several iMacs via AirPort (see *Macworld*, July 2000), this shouldn't bother most of the people that this PC is aimed at.

iMac DV +

This new model of iMac is actually pretty much the same as the old iMac DV, with FireWire and DVD-ROM drive as standard. It now runs at 450MHz and boasts a 20GB hard drive. The only reasons for paying the extra £200 that it costs over an iMac DV are the twice-capacity hard drive (handy for space-hungry desktop movies), DVD drive (not such a big deal, but certainly future safe) and a third choice of colour (the pale-green Sage). iMovie 2 and video mirroring also come as standard in the £999 price tag.

iMac DV Special Edition (SE) The top-of-the-range iMac has everything the others contain (FireWire, DVD, iMovie 2) plus a healthier amount of memory, a larger hard disk (30GB), and a 500MHz G3 processor. It is available in two colours: the popular Graphite and new all-white Snow. Opinions are divided as to the merits of the look of the Snow model: it's not as clear as the other colours, but not a solid white either. Get yourself to an AppleCentre (list on page 142) for a quick look before deciding that this white is all right. The DV SE costs £1,199 – that's a whopping £550 more than the entry-level iMac.

Which DV iMac is for you?

Presuming that desktop video is definitely on your wish-list (remember that DV-In and -Out camcorders cost from £700), what's in a DV SE that's not in a DV or DV +? The extra memory is a real plus. DV and DV+ owners should definitely purchase more RAM, as the 64MB that comes standard with those models is just not enough for today's computing needs, especially desktop video. (Entry-level iMac owners should also bump-up to at least 128MB.) But as bumping up to 128MB costs about £100 (inc. VAT), that's not enough of a reason to go for the SE. The 30GB hard drive is great, but FireWire hard drives could make up the difference if the 10GB or 20GB drives fill up too quick. The 500MHz processor goes at a cracking rate, but the difference between it and even the 400MHz chip (18 per cent) shouldn't be enough to swing your final decision.

Colour will also certainly make its mark on your choice of iMac, although the new Indigo and Ruby shades are equally as impressive as the Graphite. All together, the extra memory, hard disk space and speed do combine to make the iMac DV SE the ultimate iMac. Just remember that you could save yourself several hundred pounds by skimping on one or two of these features if your budget is found wanting.

New iMacs – new colours, faster speeds, more storage

Model	PowerPC G3 processor	Base RAM	Max RAM	Hard disk	CD-ROM DVD-ROM	USB ports	FireWire ports	New mouse & keyboard	PCI slots	AirPort compatible	Ethernet	Video mirroring	iMovie 2 software	56Kbps modem	Colours
iMac	350MHz	64MB	1GB	7GB	CD	2	0	Yes	0	No	10/100	No	No	Yes	Indigo
iMac DV	400MHz	64MB	1GB	10GB	CD	2	2	Yes	0	Yes	10/100	Yes	Yes	Yes	Indigo, Ruby
iMac DV+	450MHz	64MB	1GB	20GB	DVD	2	2	Yes	0	Yes	10/100	Yes	Yes	Yes	Indigo, Ruby, Sage
iMac DV SE	500MHz	128MB	1GB	30GB	DVD	2	2	Yes	0	Yes	10/100	Yes	Yes	Yes	Graphite, Snow

- All iMacs ship with Mac OS 9.04, AppleWorks 6, QuickTime 4, Microsoft Internet Explorer and Outlook Express, Netscape Communicator, Bugdom, Nanosaur, Palm Desktop, FAXstf Pro and Adobe Acrobat Reader.
- All iMacs include: integrated high-performance Odyssey audio system from harman/kardon; built-in microphone for speech recognition and audio recording; front-mounted dual mini-headphone jacks; analogue audio input and output minijacks; up to 16-bit stereo and 44.1KHz sampling rate; and, support for external USB audio devices.
- All iMacs include built-in 15-inch shadow-mask CRT, and new Theatre Mode for enhanced brightness of full-screen video. ATI RAGE 128 Pro graphics accelerator with 8MB of SDRAM graphics memory and AGP 2X support standard on all iMacs, supporting 24-bit true colour at all resolutions for displaying millions of colours.
- AirPort card and Base Station available for an extra £239 (inc. VAT). AirPort allows you to access the Internet without attaching the modem cable to your Mac, as well as network Macs wirelessly.



iMac
Manufacturer: Apple
(0870 600 6010)
www.apple.com/uk
Pros: Super price; great machine for non-DV users.
Cons: No upgrade if you later decide DV is for you; needs more RAM; Indigo only.
Price: £649 (including VAT)
Star Ratings: ★★★★★/8.9

iMac DV
Pros: Great price for digital-video beginners; iMovie 2.
Cons: CD drive not DVD-ROM; needs more RAM; hard drive could quickly fill with video; Indigo and Ruby only.
Price: £799 (including VAT)
Star Ratings: ★★★★★/8.9

iMac DV+
Pros: More powerful machine for DV users; DVD-ROM drive; larger hard drive; 450MHz G3; iMovie 2; good choice of case colours.
Cons: Needs more RAM; £200 more than iMac DV.
Price: £999 (including VAT)
Star Ratings: ★★★★★/8.8

iMac DV SE
Pros: Ultimate iMac; 128MB of RAM; 30GB hard drive; 500MHz G3; iMovie 2.
Cons: Expensive compared to iMac DV+.
Price: £1,199 (including VAT)
Star Ratings: ★★★★★/8.9



Apple compressed the power of the Power Mac G4 into the G4 Cube, but it didn't leave the mini-towers untouched. Apple has brought multiprocessing (MP) back to the Macintosh.

Back in 1996, Apple had a few Power Mac MP 9500 and 9600 systems that featured two or four PowerPC 604 processors. These Macs were quickly eclipsed by faster, single-processor G3 Power Macs. A G3 alone is faster than an MP 604 configuration. But, as we reported in July, the PowerPC G3 is not a good choice for multiprocessing – that is, running applications on more than one processor inside the same computer. The PowerPC G4 chip, on the other hand, is well-suited to the task. And Apple has transformed its two high-end

Power Mac models into dual-processor powerhouses, packing either two 450MHz or two 500MHz G4s.

The entry-level Power Mac is still a single-processor machine, running at 400MHz. Its hard-drive storage capacity has been doubled to 20GB, although this is not the fastest drive mechanism – running at only 5,400rpm compared to the other model's snappier 7,200rpm drives. £100 more on the online Apple Store gets you the faster 30GB drive – definitely worth spending the extra on.

Gigabit gain

The single-chip model does, like all the new Power Macs, benefit from far-faster networking. Apple is the first computer manufacturer to build 1,000Mbps Gigabit Ethernet right into its workstations. As this feature would usually cost at least £600 (ex. VAT) to install as a third-party PCI card, Apple has really improved its Power Macs against the Wintel opposition. A Farallon four-port Fast Starlet Gigabit Switch will cost you £1,050. While it says 1,000Mbps, both Windows PCs and Macs can coax only a 300 per cent boost out of Gigabit Ethernet over average 100BaseT speeds. That's still going to mean much-faster networking if you regularly transfer huge files. See News, page 30, for more details.

Dual processors

The two high-end Power Macs both pack two G4 processors (at either 450MHz and 500MHz). Mac OS 9's limited MP functionality means that programs must be specially optimized to gain any benefit. Users of MP-optimized software will benefit enormously. Others won't notice any difference until the arrival of Mac OS X, which will offer true pre-emptive multitasking.

Mac OS 9's limited MP capabilities also mean that you cannot simply equate two 500MHz G4 chips as 1GHz



power. Mac OS X is what these Power Macs were built for. At the moment, though, they're more an attempt by Apple to deflect criticism away from the fact that there aren't any PowerPC processors out there faster than 500MHz.

So far, the following apps support MP under Mac OS 9: Adobe Photoshop; Apple's Final Cut Pro; Media Cleaner Pro from Terran Interactive; NewTek's Lightwave 6; Casady & Greene's SoundJam MP; and, MPEG Power from Heuris.

Photoshop users will therefore make up the vast majority of MP buyers, wishing to speed up their Gaussian blurs, lighting effects, rotations and colour conversions by employing the power of two top-speed G4 chips. Photoshop (with special plug-in installed) already benefits from the added oomph of the G4's Velocity Engine. OS 9's MP capabilities should speed up about 300 different Photoshop commands.

Apple couldn't get us either of the MP Power Macs in time for testing for this issue, but the company claims that Photoshop runs almost twice as fast on a Power Mac with two 500MHz G4 processors as on a gigahertz Pentium III. (Apple's tests mark a single 500MHz G4 as about as fast a single 1GHz PIII.). Side-by-side demos at Macworld Expo certainly seemed to prove such a claim. An interesting comparison would pit an MP Mac against an MP PC, but we'll have to wait until they're in the Macworld Test Centre.

Macworld's buying advice

Photoshop users should benefit immediately when using one of the MP Power Macs. The rest of us probably won't. Buying an MP Power Mac now guarantees that it'll be ready for all the advantages of OS X when the next-generation Mac operating system ships early next year. Remember, though, that OS X doesn't require more than one processor, so don't think that you have to have MP for next year.

If the Cube is not upgradable enough for you – with no PCI slots, chip-upgrade facility or changeable graphics accelerator – then the Power Mac G4 is a must.

The entry-level Power Mac G4 has a larger hard drive and Gigabit Ethernet for just an extra £50 on top of its predecessor's £1,099 price tag. The lack of multiprocessing won't bother you unless you use any of the above list of applications heavily.

The two MP Macs gain an extra G4 processor and greatly increase hard-disk capacity, as well as adding Gigabit Ethernet. Alas, prices do not stay static as they do in the US – but the new features are easily worth the extra cash (£50 on the 450MHz model, £150 on the 500MHz). Previously standard Zip drives, however, are now only an optional extra, at a cost of £60.

Build-to-order options on the online Apple Store allow you to increase storage space to over 200GB (using three 10,000rpm 72GB Ultra160 SCSI drives at a cost of £3,920) and RAM to 1.5GB (an extra £3,160; although Mac OS 9 can handle only 999MB of RAM).

Apple has won more prizes than Tom Hanks has picked up Oscars for its fantastically designed range of computers and peripherals. The iMac has rightly been designated a true design classic, and the Graphite Power Mac G4 and 22-inch Cinema Display both have their places in design museums around the world. And that's not even mentioning the new G4 Cube...

But Apple made a crucial error when it came to designing the input devices that shipped with these great desktop Macs. British designer Jonathan Ive may be assured of his place in the great design Hall of Fame, but he is not going to be an automatic choice as creator of the best-ever computer mouse.

Indeed, the round, puck-like mouse that shipped with the iMac and Power Macs has been called the worst mouse ever. Apple claims that it is more ergonomic than other mice, but 99 per cent of its users think it's about as tasty as a stale digestive – just not as good looking.

For all its awards, Apple was in the embarrassing position of being beaten on mouse design by Microsoft, of all companies. Its futuristic silver IntelliMouse Explorer mouse (£42; see Reviews, *Macworld*, March 2000) featured two main buttons flanked by a rubberized scroll wheel in the centre, and a further two auxiliary buttons on its left side. You could program buttons and button combinations to perform one of 15 different functions, including clicking, dragging, and typing simple keyboard shortcuts.

In contrast, Apple's dumb disk mouse had one button and even less supporters. It looked a bit like a wheel, but it lacked the Explorer's scrolling capabilities.

During his keynote speech at New York's Macworld Expo, Apple CEO Steve Jobs finally did the honourable thing. He admitted that Apple had goofed with the goofy mouse. "We have many faults, but we do listen," he gracefully told his audience.

And he immediately delivered a replacement – that could see Microsoft's mouse retreating through the silicon skirting board.

Like the Explorer, Apple's new Pro Mouse is quite different to all previous Apple mice. It does not rely on the movement of a dust-collecting ball on its underside. The Pro Mouse is optical. Its glowing-red optical sensor ensures a far higher level of precision than that old scratchy ball. It also eliminates the all-too-often skipping and sticking that we're used to with our mice. It has no moving parts at all – so there's nothing to get dirty and gam up. Its optical nature means that there's no need for a mousepad – spelling certain death to much future *Simpsons* and *Star Wars* merchandising.

The best thing about the Pro Mouse, though, is that it isn't round. Its sleek crystal-clear casing is like a tiny see-through glasses' case, and is as unobtrusive a shape for the hand as I've ever felt. As you move it around, its red optical sensor lights up, which is as attractive as it is useful. Shine the light against a wall, and you get a devil bunny shape. Hey, who said mice were boring?

Button it

There is a big debate in mouse technical circles about the merits of a one-button mouse and a multi-buttoned mouse. Apple has always plumped for the one-button variety, ingeniously inventing the double-click to do away with the need for a second finger target. Nearly all other PC manufacturers decided that two buttons are better than one – and so Apple has remained out on a limb in this furious debate.

The pro Mouse, however, bucks the trend even further – it doesn't have any buttons! Instead, you click by gently

depressing the whole mouse case - the body pivots up and down to activate the click mechanism. You can click as hard or as softly as you want.

If this sounds like you'll have to learn a whole new way of operating a mouse, relax. The first time you use a Pro Mouse, you'll forget what all the button fuss was about. In fact, you'll wonder why those button boffins ever existed in the first place. No buttons is the perfect mouse solution, as you don't even think about the mouse in your hand – you just guide yourself wherever you want your cursor to go. The mouse is rightly transparent, as it just seems to disappear from your consciousness.

A scrolling wheel would have maybe spoiled this finger freedom, but its absence is perhaps the only complaint that people will aim at the new mouse.

Keyboard cares

The old round mouse was hated by many. Its tiny keyboard sibling was also disliked by many professional users, who yearned for the expansive pleasures of Apple's old Extended Keyboard. Their prayers have been answered. The sleek new Pro Keyboard – with Cinema Display-like plastics - offers 15 full-size programmable function keys, full-size inverted-T cursor controls, and a six-key document navigation pad, as well as volume control and media-eject keys. It also includes a couple of USB ports.

The Pro Keyboard does not, however, feature the on/off button we've all grown used to using. You can find the on/off button on Apple's new displays (see page 75), so maybe Apple is hoping that by removing this function from the keyboard, it'll sell more of its monitors... If you don't buy one of the new screens, you'll have to use the on/off button on your Mac.

Macworld's buying advice

Apple was the first computer company to ship a mouse with a mainstream computer, when it launched the Mac in 1984. Its mice have come in various shapes and sizes over the years, culminating in the sorry state of the round mouse up till now. The Pro Mouse is a real winner, and all raging roundies should think about upgrading right now. Pro users will happily return to the world of full-size keyboards, and shouldn't even have to think about swapping.

A pat on the back for Apple for being the first computer maker to ship an optical mouse as standard – the new mouse and keyboard come with all new iMacs and Power Macs, as well as selling individually for £39 each. Both require USB and Mac OS 9.0.4.



New USB input devices

Pro Mouse

Manufacturer: Apple
(0870 600 6010)
www.apple.com/uk
Pros: Great shape; optical, so no mess; stylish.
Cons: Lack scrolling wheel; one colour only.
Price: £39 (excluding VAT)
Star Rating: ★★ ★/8.8

Pro Keyboard

Manufacturer: Apple
(0870 600 6010)
www.apple.com/uk
Pros: Full-size keys; media eject; stylish.
Cons: One colour only.
Price: £39 (excluding VAT)
Star Rating: ★★ ★/8.5



New G4 Power Macs – Apple adds dual-processor models

Model	PowerPC G4 processor	Base RAM	Max RAM	Hard disk	DVD-ROM DVD-RAM	USB ports	FireWire ports	New mouse & keyboard	PCI slots	AGP 2x slot	AirPort compatible	Ethernet (BaseT)	iMovie 2 software	56Kbps modem
Power Mac G4 400	1 x 400MHz	64MB	1.5GB	20GB (5,400rpm)	DVD-ROM	2	2	Yes	3	16MB ATI Rage 128 Pro	Yes	10/100/1000	Yes	Yes
Power Mac G4 450 DP	2 x 450MHz	128MB	1.5GB	30GB (7,200rpm)	DVD-ROM	2	2	Yes	3	16MB ATI Rage 128 Pro	Yes	10/100/1000	Yes	Yes
Power Mac G4 500 DP	2 x 500MHz	256MB	1.5GB	40GB (7,200rpm)	DVD-RAM	2	2	Yes	3	16MB ATI Rage 128 Pro	Yes	10/100/1000	Yes	Yes

■ AirPort card and Base Station available for an extra £203 (exc. VAT). AirPort allows you to access the Internet without attaching the modem cable to your Mac, as well as network Macs wirelessly.



Executive

Usability improvements and tighter integration in '2001' show the way ahead in Microsoft's Office odyssey — due for a September launch.

suite by Richard Boardman

If you liked Office 98, then you'll love Office 2001. But if you hated Office 98, you'll adore the new version all the more. Arcane drill-down dialogues, hidden in the depths of the interface, have been replaced with floating palettes. The oft-claimed 'program integration' now actually means something, thanks to common functions — not just a common look — between the component applications. Not least, Microsoft is introducing a pivotal new email-enabled 'PIM' (personal information manager) called Entourage, that is similar to Outlook in the Windows version of Office.

Microsoft back for the Mac

In 1997, Microsoft was persuaded that the Mac had a future, and it put together a team of Mac developers to do something about the appalling Word 6. The result was the well-received — and Steve Jobs-endorsed — Office 98. The format is now familiar to everyone: it's a suite of business applications comprising word processing (Word), spreadsheets (Excel) and presentations (PowerPoint). Office 98 is the most popular Mac office software suite. *Macworld* received a late beta-version of Office 2001, and discovered how things have been shaping up.

Although there's nothing truly original or innovative in the upgrade, Office 2001 is a significant improvement on Office 98 in terms of usability. The new floating palettes provide a good example: these are compact, floating (of course), interactive dialogues, not just redockable toolbars. Take the Property Browser palette, which is a content and document-formatting palette, common to all the suite's programs. It's also fully context-sensitive, so that tools change depending on whether the user highlights a word, formula or picture — no matter which Office program is being run at the time.

Office 2001 is a more well-rounded and better-integrated suite. Entourage's address book, for example, feeds Word's mailmerges, while all four programs have instant access to a proper dictionary — Microsoft's Encarta World English dictionary, complete with meanings, not just spellings. The File New command in any of the programs now links to a Project Gallery window, which presents files, templates and wizards for all Office document types in one, friendly place. And throughout the suite, 'flags' can be set next to things which trigger reminders for you to return to at another time.

Office 2001 is a must-have upgrade for existing Office 98 owners. Occasional users of the individual programs probably won't see the benefits, but the improved integration and the powerful Entourage PIM should win them over.

Read our Office 2001 program previews, starting on page 82 ▶



Word 2001

It's the daddy of all Office apps, and now it's easier to use, better looking and full of useful new features.



Unless you're a total games freak, nothing can be more fundamental to personal computing than a word processor. Microsoft's Mac team has listened to user complaints – sorry, 'feedback' – and has actually come up with a better Word, rather than just adding tons of features.

Central to all word-processing work will now be Word's context-sensitive Property Browser palette. Like all other Office 2001 palettes, it contains tiny sub-sections that can be shown – or hidden – individually. Because they float on top of open documents, these can get in the way, but at least they don't take up screen space like a ribbon bar does. Thankfully, the status bar at the bottom of the screen, which used to hide behind the Control Strip, is no more.

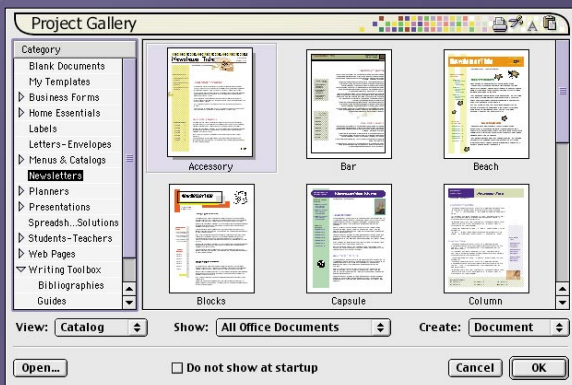
But for our money, the principal change in Word has been the killing-off of the awful old mailmerge interface. In its place, is a Data Merge Manager floating palette. Now we can't claim that this palette is completely intuitive – mailmerges are complex tasks which can't be picked up in seconds – but once you know what you're doing, it's great. The palette displays all the mailmerge features at once and in a logical format. It's great to use and we'd upgrade to Office 2001 for this feature alone.

The address lists for your mailmerge can be prepared in time-honoured fashion – in another text document – or entered by hand via the wizard. But now you can also hook directly into the contacts book within the new Entourage application. The same even goes for individual correspondence: if the recipient is already in your Entourage contact book, you can address the letter and the envelope with a couple of clicks. This is how it should be.

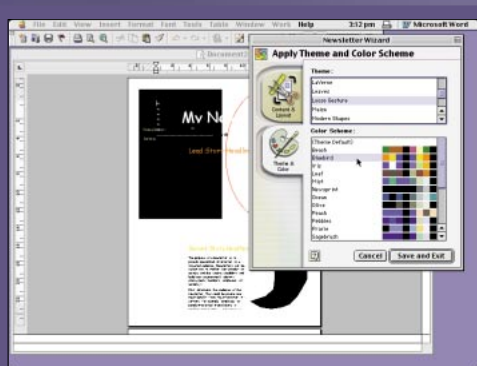
Word has also been brought up to date with regard to Web features. At last, it supports nested HTML-compatible tables. You can now call-up a preview of your Word document as a Web page within your default browser without having to do it manually. Mercifully, bullet-lists in your Word documents now look reasonably similar when the document is saved for the Web. There are some nice touches too, like being able to grab pictures or clip-art and use them immediately as graphical bullets, all in one easy step, and with no fiddling.

Several more fun tricks have been added, that help usability, such as the ability to double-click anywhere in a Word document (even a blank one) to bring the text cursor to that position. Beginners are going to love that one.

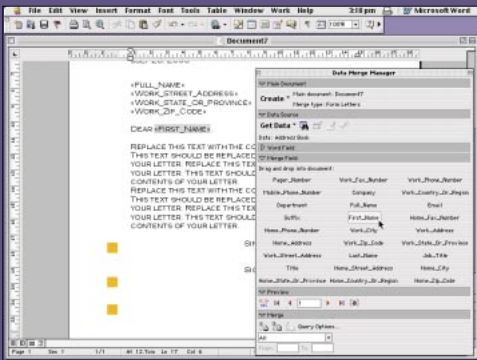
Another example of Word being brought up-to-date is its support for 24-bit colour in imported images. Whether bringing images into Word or any other Office application, clicking on an imported image calls up the Picture palette. Here, you can make rudimentary colour-enhancements and even apply a few filter effects. OK, it's not Photoshop, but at least business and home users now have a quick way of fixing red-eye and marking-up transparent colours for GIFs without having to leave Word. Our only disappointment is



Get on the project. Browse Office-wide templates and previously saved documents within the Project Gallery. You can still create a blank document directly, of course.



On the face of it
Certain wizards have been given an attractive facelift, although they often look completely out of character next to the rest of Office's dull grey interface.



Marvellous Merge
Anyone who has ever run a mailmerge from Word 98 will appreciate how useful the new Data Merge Manager is going to be. Here we're drag-&-dropping fields from our Entourage Address Book.

that the Clip Gallery is still a bulky – if resizable – window, and not a compact palette.

One nifty new feature we're still experimenting with is Collect and Paste, which provides an Office-wide clipboard for multiple clippings, that allows for any or all of these copied items to be pasted back into your documents. Although hardly innovative – there's piles of shareware that do this for all Mac programs – it's still a nice feature to have.

Elswhere, Microsoft has been busy tackling things that never quite worked properly in Word 98, such as the Autocorrect option, especially for grammar. The company claims that Autocorrect in Word 2001 is more reliable, but all we can say is that it is less likely to tell you that every sentence you type is faulty – which we guess amounts to the same thing. Not least, we can confirm that, while the native-Word 2001 format supports certain features unsupported in Word 98, we encountered no problems opening standard Word 2001 documents within Word 98, or indeed, within Word 97, or 2000 on the PC platform.

It's difficult to say whether Word has been 'enhanced' or had a load of its old, lingering problems fixed – which is certainly not the same thing, because this is, after all, meant to be an upgrade.

But Word generally feels faster and more responsive than before, as well as sporting a more up-front interface, thanks to the floating palettes. It won't be enough to persuade traditionalist Word 5.1 users to make the change, but Word 98 users should appreciate the refreshingly intuitive way of working.

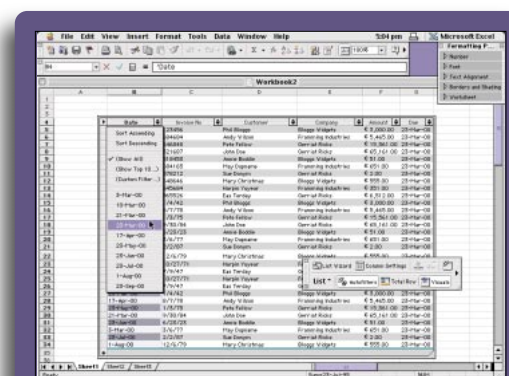


Excel 2001

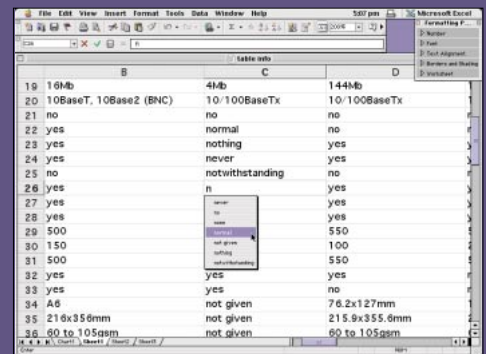


When a software developer upgrades a spreadsheet package, you would normally expect another wheelbarrow-load of mathematical functions to be dumped into a selection list somewhere. Excel 2001 doesn't feel like that at all. Indeed, the application is much more approachable for spreadsheet beginners.

One significant change concerns list editing. When Excel is used for entering lists – such as those for products or employee hierarchies – Excel 2001 tries to work-out whether the document is a real spreadsheet, with numbers and formulas, or a data list. It does this as soon as you start typing in a couple of rows. If it thinks it's the latter, a dialogue window pops up and asks if you'd like to use the



Lists sorted
This is how to manage rows and columns of data in a spreadsheet: the List view lets you resort and manipulate the list while the formatting (such as the alternately shaded rows) remains intact.



Smarter AutoFill
AutoFill now remembers multiple instances of recently entered cell data, not just the last one beginning with a particular letter.

new List Manager. You can select No, and carry on as would in the older version, or opt for Yes, which puts your list layout into a special pane within your spreadsheet. This then grows dynamically as you add more rows and columns.

The great advantage is that Excel treats the rows and columns as part of a whole. You can apply alternate row shadings to make the list clearer, but if you resort the list, the shadings will update automatically. Headings across the top of the list become active for sorting purposes. Best of all, the list-view panel adds its own scrolling bars once the pane becomes too big to fit on-screen. This means a list can sit within a larger spreadsheet, so the list and spreadsheet are scrollable independently of one other.

Anyone working with large amounts of repetitive data, may also appreciate Excel 2001's tweaked approach to the Autocomplete function. In Excel 98, the program noted

when you repeatedly type-in the same data and autofilled a cell if inputted data was similar to the last-remembered entry. Excel 2001 now appreciates that you may be typing in several different entries repeatedly, and that these might actually start with the same letter or digit – such as 'yes' and 'yellow', or '2001', '2002'. Now, Autocomplete remembers them all and presents a pop-up list to select from or ignore – a much better idea.

More welcome, is a new floating Calculator, that sits over any spreadsheet being worked on. No ordinary calculator, this provides a multi-line readout and lets you prepare and test formulas before inserting them into a worksheet. This is especially useful when you don't want to mess-up a live layout, or move to another document just to experiment with calculations.

As with Word, Excel's Web-export filter has been improved to bring it up-to-date. There's now a special Save as Web page-command, which gives the options of exporting everything, or just a range, to static or dynamic HTML. This is useful for taking catalogue data from Excel and uploading it quickly to the Web.

On this note, Excel 2001 has been designed to work more closely with the FileMaker format. This is essential, because the Mac-edition of Office doesn't include any database application. You can open a FileMaker document directly, or even point to one and create a query table.

Beyond this, is a string of smaller enhancements and fixes that make working within the program generally easier or more customizable. There are too many to list here, but we can pick out a few favourites.

One is the inclusion of the Euro as a standard-currency option within the number formats: a small but important feature for many spreadsheet users.

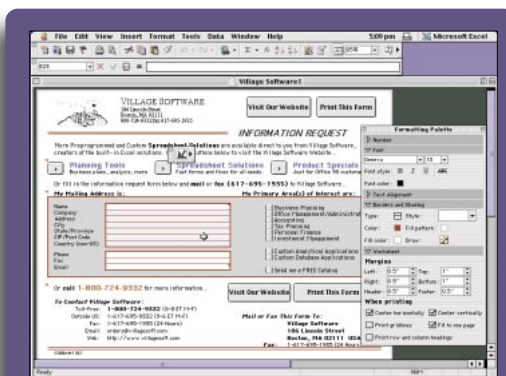
Another, is the expansion of options within the graphical chart formats, so that specific-value axis units can be stated, rather than size and layout being constantly rejigged.

Data-labelling for charts has been improved. You can now work with timescale labels – at last!

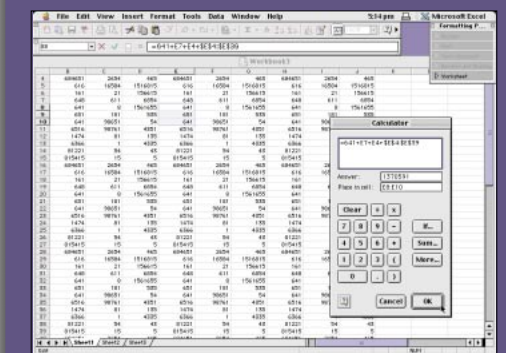
Finally, Microsoft has fixed the interface disparity between Word and Excel. This was overlooked in Office 98. In Office 2001, Excel now not only shares the same Property Browser as Word, but most of the text-formatting keyboard shortcuts are the same. Watch out, this can catch you out at times – **⌘-I** makes text italic rather than inserts a row, but is still welcome.

It's great that Excel 2001 feels much more part of an integrated suite.

The famous spreadsheet is now an intelligent, integral part of Office.



Context-sensitive formats
Here's Office's Formatting palette, as seen from within Excel. Just as with Word, it is fully context-sensitive to the application and to the objects currently selected.



It all adds up
Experiment with simple or complex calculations without having to interfere with your layout by trying them out in the Calculator.



PowerPoint 2001



Once
confusing and
a nuisance to
users, this
presentations
program is
now bang
up to date.

Unlike Word or Excel, a great many people who use Macs in business treat PowerPoint as a necessary evil. In Office 98, it was as if Microsoft had spent so much time trying to make the first two programs look right that, by the time it reached the presentations package, it'd given up. PowerPoint regulars laboured to learn its strange workings; casual users found it hopelessly confusing. Many of these issues have been addressed in PowerPoint 2001.

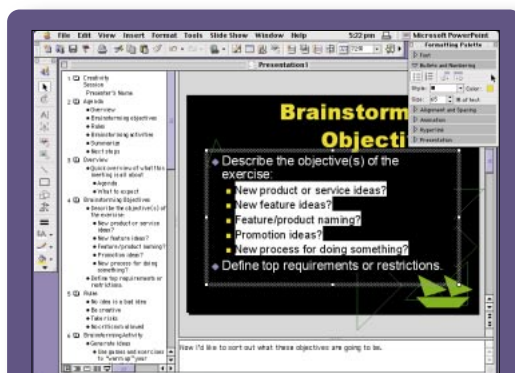
A classic example of the old bad ways of PowerPoint 98 was the almost total separation of the slide view from the outline view and any speaker notes. Maybe some of you never discovered all three – imagining the slide view was all there was. PowerPoint 2001 brushes all this aside, with a light interface facelift that sports a three-pane working window, which shows the current slide, notes and the outline structure in one view.

This is further enhanced by a new Slide Navigator toolbar that is available when running a presentation. This replaces the old Slide Show pop-up menu, which, again, not all PowerPoint users even knew existed – preferring instead to move around a presentation sequentially, using cursor keys. Being able to skip and re-order the slide on the fly is useful, especially for cut-down presentations and training sessions. Slide Navigator is dockable too, so it looks neat.

Experienced PowerPoint users will be glad to find that it's possible to work with multiple master-templates within one presentation. Before, you were limited to just the one master, something that could worked around by rejigging the master to suit. The new multiple approach lets you pick and choose from slide templates as you work.

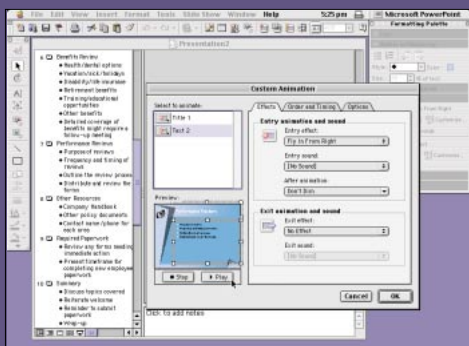
For many people the single most important fix in PowerPoint 2001 will be the ability to work with live tables. This means you can create a tabular layout directly within a slide and adjust it in the conventional spreadsheet style, such as dragging between rows and columns to expand and contract them. The new TableDraw interface has been standardized across Word, Excel and PowerPoint for maximum integration within Office 2001. When it decides to put something right, Microsoft can make a damn good job of it.

Associated with this, is the introduction of AutoFit for standard text-entry. Before, imputted text had to be jiggled-about in its bounding box for it to appear neat. PowerPoint 2001 automates the entire text-wrap process as you type. The text box resizes itself dynamically, drops to a second line if you run out of space and then fixes all line-spacing accordingly. Creating simple text-chart presentations suddenly got a whole lot simpler.



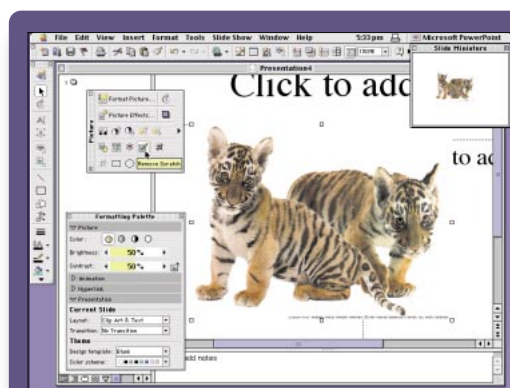
Tri-plane

Check out the three-pane working window. It's hardly a ground-breaking development but one that makes PowerPoint more accessible for beginners.



Multimedia attractions

PowerPoint now makes it quite simple to prepare animated text actions, triggered by events and accompanied by audio.



Picture perfect

You can place a picture anywhere in any Office application and then edit colours, correct problems and apply effects using the new Picture palette.



QuickTime controls

Save presentations to the QuickTime movie format, and apply QuickTime transition effects too. They work really well.

Automated layout is also apparent when exporting presentation to HTML. PowerPoint 2001 produces Web pages that reflow and reformat according to the window-size employed by the viewer the Web browser; it doesn't create fixed-format layouts that look right only at a particular screen-resolution and window size. All of Word 2001's Web features are here too.

PowerPoint 2001 is a mean multimedia machine. Text and OfficeArt objects can be animated to enter and exit a slide upon demand. Animations can be previewed in a little window while still working on a slide, so there's no need to switch-over to Slide Show mode to see if it looks right.

A couple of extra animation formats have been added to the supported list – animated GIFs are in there at last. But most exciting of all for experienced PowerPoint demons, is the nifty QuickTime support. As well as the usual slide-transition suspects, you can now play with several interesting QuickTime slide-transitions that offer a slick video-like appearance. This offers relief from the usual cheesy swipes and blocky dissolves.

Best of all, you can now export entire presentations to QuickTime-movie format for distribution. This means there's no longer any need to make sure recipients have a PowerPoint player – all they need is the freely available platform-independent QuickTime player. Now you can send out presentations on CD and upload them to the Net, confident that playback is going to be a snap for visitors. If you've never used PowerPoint before, the 2001 upgrade presents a host of reasons to start.



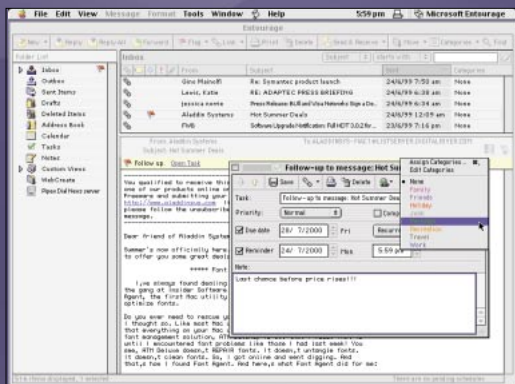
Entourage 2001

Office 2001 includes a new program — an excellent personal-information manager.



Flag day

Being able to flag Entourage entries is one thing, but flagging with a follow-up reminder is the killer feature of Office 2001.



The big news of the Office 2001 upgrade is Microsoft's answer to Outlook in the Windows version of Office.

Macintosh users will be familiar with Outlook Express, the free email and newsreader client, but the full version of Outlook is a complete information manager, forming a central springboard for all Office-related work. Returning to the Mac, Office 2001 takes the same Outlook principle, but with a Mac-oriented approach that's different enough for Microsoft to call it by another name.

Entourage combines the features of Outlook Express as a contact manager and email/news client with calendar, to-do tracking and note-taking functions. For email and newsreading, current Outlook Express 5.0 users will immediately recognize the interface, and will soon be up and running. There is the same ability to set-up scheduled mail-checks and handle incoming messages with junk filters and rules, for example. But that's not to say that Entourage is the Outlook Express quarter-pounder dressed up as fillet steak: this is new and more powerful program.

What makes it so powerful is integration, both within its modules and with Word, Excel and PowerPoint. Remember, this is a full PIM (personal information manager), not just an email program with a contacts list. You can associate related entries, such as setting up a meeting in the calendar module, which links into your contact book: the meeting entry can then reveal the full contact information, or indeed your contact entry can refer to the impending meeting. Similarly, you might want a to-do task to refer to another Office document, and then assign both to work with the calendar. Entourage gives you have the startings of a projects-tracking system.

One feature that stands out is Flag for Follow Up. Although this is available throughout Office 2001, in Entourage it can be used for timing and handling alarms. Not only can you track things like the development of a document, but you can also use flags to set milestones and reminders. Even at the most basic level, these flags can be attached to incoming email messages that will be reviewed later: typically you'll forget about them within minutes, but a flag will offer a prompt at a predetermined time and date. It's a simple, but excellent, idea.

The Address Book doesn't look at all like Outlook Express, but rather like a bona-fide PIM product, such as Claris Organizer or Now Contact; indeed, you can import data from these into Entourage. Thankfully there are plenty of custom fields — useful for entering clients' star signs, we find — and there's a neat Summary view for each contact. You can categorize and colour-code them and study the list in an unlimited variety of custom views. If you're conscientious enough to enter all contacts into the Address Book, they'll be available to all Office 2001 applications, including Word's mailmerge facility — a real boon.

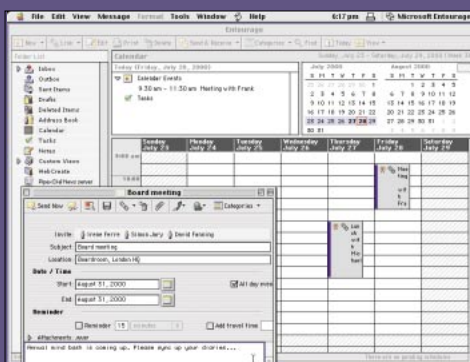
Another feature is the Calendar, which is a well-featured time manager. Sure, you can use it to record events in the normal way — viewing hours, weeks and months — but it can also be used to arrange meetings.

As long as you're setting up a meeting with others who have an iCalendar-compliant PIM — Entourage and Outlook, for example —



A class of PIMs

More than an overblown Outlook Express, Entourage is a well-rounded PIM complete with a flexible Address Book. Much of this 'Summary' view is hot-clickable.



Time lord

Prepare your timetable according to multiple views and arrange group meetings via the iCalendar standard. Then post your calendars on the Web.

you can enter the date and time parameters, and let the program sort it out. If it can't find a way of getting everyone to attend, it'll tell you who can't make it. You can save your calendars as Web pages.

Of course, if all you want to do is set goals and reminders, this can be done in the Task list. Again, this works like a well-rounded PIM, letting you categorize and colour-code tasks, strike them out, check them with ticks, or mark them with flags. If all you want to do is jot down a text reminder, Entourage provides a Notes module. These can be stand-alone jottings or linked to entries in your Address Book, Calendar or Task list.

With email, Entourage takes advantage of Office 2001-integration to provide the full editing and formatting arsenal of Word within the email composition window. Even if you're never send coloured and formatted emails — they can be annoying to receive — you can enjoy the benefit of other common features from the suite, such as AutoCorrect and the Encarta dictionary.

Another nifty idea is the way the AutoFill feature has been designed to remember up to 150 recently used email addresses, even if you haven't entered them into your Address Book.

Entourage is a genuine alternative to other PIMs and a powerful central application to the Office 2001 suite. Use it to the full, and it'll transform the way you work. **MW**

Removin' on up

Tailor your choice of back-up media to match your requirements.

By David Fanning

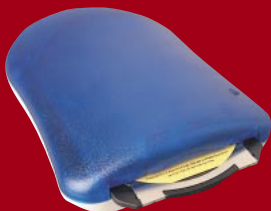
Every year, files get bigger. In the old days, a 24-bit colour image could swamp a standard 40MB drive. Nowadays, machines ship with 20GB drives – and are swamped

instead by massive digital-video files. Whatever your set-up, it's likely that its storage capacity is out-stripped by the need to save large files. The answer is usually some kind of archive or back-up

page 90



design



Iomega Klik

Iomega invented the Klik drive more than two years ago, though it has only recently come to the Mac. It's designed as a competing product to solid-state media, such as Compact Flash and Smart Media. Its main advantage over those formats is price: at around £7 for a 40MB disc, it's a fraction of the price of solid-state media.

Unfortunately, few cameras support this format, and Mac support is still minimal. Also, the drive comes with a PCMCIA, which is incompatible with Mac PowerBooks – so you need a cradle adaptor for USB compatibility. It isn't the most Mac-friendly solution

Macworld's buying advice If you need Klik, the Microdia solution is the best option.

Microdia Klik

Microdia has done what Iomega failed to: produced a Mac-compatible Klik drive that doesn't require an adaptor. It's also cheaper than the PCMCIA card and cradle arrangement favoured by Iomega.

The only problem is that Microdia doesn't yet have a UK distributor – so you need to buy the drive by calling or emailing Microdia in Hong Kong. Compared to other storage, the cost per-MB seems steep, but it's still better when compared with solid-state storage that costs around £50 for 32MB. That makes it a much cheaper option for digital photography, but it isn't really suitable for anything else.

Macworld's buying advice The best option for Klik.

Iomega Zip 100

The Zip format has been a great success for Iomega. It arrived at a time when SyQuest was dying, and the floppy drive failing to keep up with the needs of computer users. Since its introduction, 200 million Zip discs and 32 million Zip drives have been sold – so on compatibility, it scores highly. The 100MB version has been superseded by the Zip 250, which retains compatibility with Zip 100. The one drawback with the Zip drive is expense of storage. Each 100MB disc costs around £7 – but 100MB doesn't go as far as it used to, and using multiple disks gets expensive.

Macworld's buying advice Not going for the Zip 250 may well prove to be a false economy.

Imation SuperDisk

The SuperDisk is similar to the Zip 100: it's a floppy-based cartridge that stores 120MB of data. It does have one advantage over the Zip, in that it also reads and writes to floppies. However, there aren't many SuperDisks around, so compatibility is an issue. Unless you want to archive data for your own use without ever sharing it, choose another format. Even if you just want to archive data, this is among the more expensive ways of doing it.

A couple of years ago, when this was the first Mac-compatible USB device, it was a contender. Now it's an also-ran.

Macworld's buying advice We can see few reasons for using the SuperDrive for removable-storage. The Sony HiFD is cheaper and better.

Sony HiFD

This new format from Sony can hold 200MB on a special floppy. Of course, as a new format, it may take time to catch on – but if anybody can launch a format, it's Sony. After learning its lesson with the Betamax VHS format, Sony has since successfully promoted many formats, like MiniDV, MiniDisc and, most recently, the MemoryStick. The HiFD drive can also read old-fashioned floppies and works with Windows or Macintosh. Much as I abhor floppies, this drive could pose a threat to Iomega Zip 250 drives. Though it's early days for HiFD, there's a good chance it will catch on.

Macworld's buying advice Wait and see how the format performs – or get one now and lead the rush.

Iomega Zip 250

The natural successor to the Zip 100 is still lagging behind on sales compared to its smaller brother. However, the success of the original Zip has made this a popular choice for many people. The additional storage capacity is more than double that of the original, which is in keeping with modern computer needs.

The 250MB discs are double the price of the originals, which means you get more storage for your money. However it's still one of the more expensive ways to store data. There could be some competition in the shape of the Sony HiFD drive – with discs around the same price.

Macworld's buying advice Still a safe bet, though not the cheapest format.

breakdown

specs

Company	Iomega
Model	Klik Drive
Format	Klik
Capacity	40MB
Cartridge price	£7
Price per MB	17.5p
100MB-read time	5 mins 19 secs
100MB-write time	5 mins 52 secs
Interface	PCMCIA
Price	£152 (+ £29 for adaptor)
Distributor	Iomega
Telephone	0800 973 194
URL	www.iomega-europe.com

Star Rating ★★★/6.8

Company	Microdia
Model	Klik Drive
Format	Klik
Capacity	40MB
Cartridge price	£7
Price per MB	17.5p
100MB-read time	5 mins 22 secs
100MB-write time	6 mins 44 secs
Interface	USB
Price	£99 + £29.50 p&p
Distributor	Microdia
Telephone	00852 2801 7813
URL	info@microdia.com

Star Rating ★★★★★/7.6

Company	Iomega
Model	Zip 100
Format	Zip
Capacity	100MB
Cartridge price	£6
Price per MB	6p
100MB-read time	1 min 26 secs
100MB-write time	1 min 28 secs
Interface	USB
Price	£84
Distributor	Iomega
Telephone	0800 973 194
URL	www.iomega-europe.com

Star Rating ★★★/6.9

Company	Imation
Model	SuperDisk
Format	FD
Capacity	120MB
Cartridge price	£8
Price per MB	6.7p
100MB-read time	3 mins 7 secs
100MB-write time	4 mins 21 secs
Interface	USB
Price	£109
Distributor	Imation
Telephone	01344 402 200
URL	www.imation.com

Star Rating ★★★/5.1

Company	Sony
Model	HiFD
Format	FD
Capacity	200MB
Cartridge price	£10
Price per MB	5p
100MB-read time	2 mins 52 secs
100MB-write time	5 mins 53 secs
Interface	USB
Price	£34
Distributor	Sony
Telephone	01932 816 660
URL	www.imation.com

Star Rating ★★★★★/8.0

Iomega	Iomega
Zip 250	Zip 250
Zip	Zip
250MB	250MB
10	£10
4p	4p
1 min 11 secs	2 mins 51 secs
1 min 40 secs	3 mins 13 secs
FireWire	USB
£126	£109
Iomega	Iomega
0800 973 194	0800 973 194
www.iomega-europe.com	www.iomega-europe.com

★★★★/8.0 ★★★★★/7.8

* Speed testing for the Microdia Klik Drive was performed using a 10MB file. These results were then multiplied by ten.

system – something that relies on a removable storage media.

Removable storage usually involves a disc – either magnetic or optical – that sits in a cartridge. You can use these cartridges to store files, or as a medium to transfer large files. There are more than a dozen formats to choose from, and each format can come with a selection of connectivity options. This makes it difficult for a novice – or sometimes even old hands – to choose the most sensible solution. This month, we look at the range of drives available, and test their suitability for the job.

Removable-storage formats come and go, and it's easy to get stuck in a technological dead-end. Deleted formats include SyQuest 44, 88, and 200MB, SyJet, EZFlyer, Floptical, Bernoulli, and, if you go back far enough, Winchester drives. The jury is still out on floppies, but I say kill 'em. It's almost impossible to predict which formats will survive – new formats may never take-off and old ones may just run out of steam. For real longevity, compatibility is the key. If lots of your friends and colleagues use a particular type of removable drive, it's probably worth investing in – unless, of

course, they're propping-up obsolete formats.

Different uses require different capabilities – so, if you need to transfer pictures from a digital camera, a 5GB optical drive isn't the right tool. Equally, backing-up a network won't work if you use floppies. Here are a few scenarios that you may come across, and some options for handling them.

The home user

You have an iMac full of the kids' homework, your domestic accounts and your family-tree project. There's no floppy drive, so there's no

way to make these precious files safe from the disaster of, say, a system meltdown. First of all, if you have Mac OS 9 you can use iTools – it's incompatible with earlier versions of the Mac OS. Part of the iTools package – a free service from Apple – is iDisk (see page 92).

For a more solid storage solution than iDisk, a USB or FireWire solution is needed. Iomega offers Jaz, Zip, and Klik solutions in 2GB, 250MB and 40MB options respectively. The Klik drive is the most recent addition to



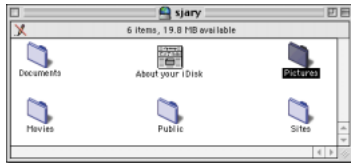
iDisk
iDisk offers 20MB of online storage that can be mounted as a volume on the desktop. If it's just a matter of backing-up essential files, this is a good way to go. You need to be running Mac OS 9 or higher to use iDisk.

Before the recent Macworld Expo in New York, the service was so slow that frequent backing-up was painful. Now, though, a new, improved iDisk has been unveiled by Apple.

Apple claims it's three times as fast. I've used the old and the new – and, although Apple's claim is on the extravagant side, there's no doubting that iDisk is now a much better back-up tool.

iDisk can also be used for sharing files with friends, or transferring files from work. In most instances, the best use for iTools, and iDisk, is to hold Web pages. That's something no other storage method can offer.

To take advantage of iTools, go to www.apple.com/uk and click on the iTools tab. Current users will be interested in a new feature whereby you can buy extra space for a small payment.



design

breakdown

specs



Fujitsu DynaMO
Fujitsu is sticking to the old favourite – the 3.25-inch magneto-optical drive. The DynaMO has fantastic stability, so is a reliable long-term storage medium. Capacity is also improved, now standing at 1.3GB per disc. This adds to the life of the drive, because it will stay compatible for longer – even though the 230MB discs are still commonly used.

The extra capacity also makes it a cost-effective archive choice, at a little more than a penny per MB. Because the disc is enclosed in a cartridge it's a safer format than CD for storing files in constant use, because it doesn't easily scratch.

Macworld's buying advice Great for archiving files inexpensively.

Company	Fujitsu
Model	DynaMO
Format	MO
Capacity	1.3GB
Cartridge price	£17
Price per MB	1.3p
100MB-read time	3 mins 9 secs
100MB-write time	3 mins 9 secs
Interface	SCSI
Price	£350
Distributor	Fujitsu
Telephone	020 8606 4605
URL	www.fujitsu.co.uk

Star Rating ★★★★★/7.8



Iomega Jaz 2GB
Big brother to the Zip drive, the Jaz format is now double its original capacity, at 2GB. Unlike the Zip, the Jaz format uses a hard-disk cartridge, instead of a super-floppy. This means bigger files can be stored and it's also a tad faster than Zip. The main drawback is the price of the media. Even though Jaz is cheaper per MB to store data, each disc costs around £80, whereas a Zip costs £7. At least 2GB takes some filling.

The expense is a shame, because the 2GB size is ideal for handling most file types. You can fit a whole issue of *Macworld* on one Jaz disk.

Macworld's buying advice Although Jaz isn't a cheap format, it does scores well on compatibility.

Company	Iomega
Model	Jaz
Format	Jaz
Capacity	2GB
Cartridge price	£67
Price per MB	3.4p
100MB-read time	45 secs
100MB-write time	1 min 19 secs
Interface	SCSI
Price	£228
Distributor	Iomega
Telephone	0800 973 194
URL	www.iomega-europe.com

Star Rating ★★★★★/7.8



Castlewood Orb
Castlewood is a brave company to take on the established formats such as Jaz, Zip and MO. The product has been some time in development, and also took a considerable period to reach the UK. Like the Jaz, it's a hard-disc-based cartridge, but, at 2.2GB, its capacity is slightly more than Jaz. As a new format, the Orb suffers from rarity – don't bother to send work on one to a repro house because it's unlikely to be of any use. What Castlewood does have on its side is price: at £145, the drive is affordable – but, more importantly, the media is cheap. An Orb disc is £18, compared to almost four times this for a Jaz.

Macworld's buying advice If you don't need to share data with others, it's a bargain storage method.

Company	Castlewood
Model	Orb Ultra
Format	Orb
Capacity	2.2GB
Cartridge price	£18
Price per MB	0.8p
100MB-read time	3 mins 23 secs
100MB-write time	5 mins 9 secs
Interface	USB
Price	£145
Distributor	CMS Peripheral
Telephone	020 8960 6000
URL	www.castlewood.com

Star Rating ★★★★★/7.8



LaCie DVD-RAM
DVD is one of the most crowded formats invented because it comes in so many flavours with overlapping functionality. DVD-RAM is a recordable version of the DVD-ROM. That means it's a high-capacity data format that can be rewritten, like an MO disc. Added benefits include the ability to read DVD discs – but that doesn't translate to playing DVD movies. This requires hardware decompression, but Apple doesn't allow third-party DVD-player access to its DVD Player software. You can also forget using DVD-RAM for making copies of DVD movies: these are encrypted, to prevent pirating.

Macworld's buying advice DVD-RAM is one of the least expensive and reliable ways to store data.

Company	LaCie
Model	DVD-RAM
Format	DVD
Capacity	5.2GB
Cartridge price	£25
Price per MB	0.5p
100MB-read time	1 min 18 secs
100MB-write time	3 mins 30 secs
Interface	SCSI
Price	£485
Distributor	LaCie
Telephone	020 7872 8000
URL	www.lacie.co.uk

Star Rating ★★★★★/8.2



Maxoptix Optical
The largest format for MO drives is the massive TNT-6star 5.2GB, 5.25-inch disc. It now has competition from the DVD-RAM drives, but it's still faster and will read legacy 5.25-inch discs. This size of drive is too big to be convenient for file transfers, although it will fit the bill for more storage-hungry files, such as digital video or music. It's not fast enough to be used as an additional hard drive, but is ideal for storing projects without clogging the main drive. Because it's an MO drive it's long-lasting, so will be useful for storing important data for long periods.

Macworld's buying advice Only suitable for those with huge amounts of data, but it's cost-effective and faster than DVD-RAM.

Company	Maxoptix
Model	TNT-6star
Format	MO
Capacity	5.2/4.8/4.1GB
Cartridge price	£50
Price per MB	1p
100MB-read time	1 min 18 secs
100MB-write time	2 mins 29 secs
Interface	SCSI
Price	£1,050
Distributor	Maxoptix Europe
Telephone	01483 776 799
URL	www.maxoptix.com/europe

Star Rating ★★★★★/7.9

the line-up, but it isn't your average removable drive. It consists of a tiny silver cartridge that contains a tiny disc. This disc is so small, that it can be used inside Klik-equipped digital cameras – rather than using solid-state memory, such as SmartMedia or Compact Flash. And Klik discs are relatively cheap at around £7. More useful for backing-up and file transfers is the Zip 250, or, better still, Jaz formats. At around £70 for a 2GB disc, a Jaz drive isn't a cheap way to store data – but it does have the advantage of large capacity and good

compatibility. Because it's one of the leading formats, you'll find many professional users that you are likely to share data with will use a Jaz drive. The Zip drive is even more popular, though there are more of the 100MB drives around than the newer, more versatile, 250MB version.

A cheaper way to store data is to use a CD-RW – a machine that can write to blank CDs or re-recordable CD-RW media. It does have a number of limitations – the disc can't be used as a hard drive, as can normal removable media. Instead, you must burn

CDs, which is more complicated than just drag-&-dropping files onto an icon. However, Macs have CD, or CD-supporting DVD drives, so compatibility will be 100 per cent. You can also burn CDs for use on Windows PCs.

Trawling the SoHo market
SoHo users will probably have a G3 or G4 Mac, either in a home office, or a small studio with a couple of other Macs. Files need to be transported to and from clients and repro houses. Compatibility is the key

here, so the more obscure formats are out of the running. Zip and Jaz drives are popular – both with agencies and repro houses – and are a sensible choice. On the other hand, magnetic media is less stable than its optical counterpart, so MO (magneto optical) drives are also popular. There are two MO formats – 3.5-inch and 5.25-inch – both of which come in a variety of capacities. Initially, the 3.5-inch MO media could hold 128MB of data, but over the years, this has doubled at regular intervals. Now, you can squeeze

LaCie FireWire CD-RW, OnePro CD-RW, Sony CD-RW, Iomega Zip CD

The compact-disc format is probably the most ubiquitous of all, now that the floppy is in its death throes. CDs are almost as cheap as floppies, and, if bulk-bought, cost under £1. The advantage of CD is that most of the world's Macs and PCs can read the discs. The disadvantage is that CDs need to be burnt in one session. Drag-&-dropping files as you'd do with a normal drive isn't an option. Most CD recorders can also write to re-writable CDs. This is a more convenient – but less compatible – way of using the drive. However, CD-RW media is more expensive, at around £7 per disc.

The speed of a CD recorder is usually expressed as a multiple of single-speed CDs. A single CD carries 74 minutes of audio, or 650MB of data. At single-speed, a full CD would be written in 74 minutes, but now, 2x, 4x, 8x, and even 12x recorders, are available – with 16x not far off. A 2x writer will take half the time (37 minutes) – to write a full CD. A 4x takes half the time again (18.5 minutes) and 8x half that again (nine minutes). Being able to write a 650MB disc in under ten minutes, makes it a versatile way to store and share data.

Macworld's buying advice

CD-RW is fast and versatile, but as USB models can manage only 4x, go for quicker FireWire versions.

Company	LaCie
Model	CD-RW
Speed	8x (write), 4x (rewrite), 24x (read)
Format	CD-RW
Capacity	650MB
Cartridge price	£1
Price per MB	0.2p
Interface	FireWire
Price	£309
Distributor	LaCie
Telephone	020 7872 8000
URL	www.lacie.co.uk

Star Rating ★★★★★/8.1

Company	Iomega
Model	Zip 650 CDR
Speed	4x (write), 4x (rewrite), 6x (read)
Format	CD-RW
Capacity	650MB
Cartridge price	£1
Price per MB	0.2p
Interface	USB
Price	£194
Distributor	Iomega
Telephone	0800 973 194
URL	www.iomega-europe.com

Star Rating ★★★★★/7.6

Company	Sony
Model	CRX140EL-RP
Speed	8x (write), 4x (rewrite), 32x (read)
Format	CD-RW
Capacity	650MB
Cartridge price	£1
Price per MB	0.2p
Interface	iLink (FireWire)
Price	£134
Distributor	Sony
Telephone	01932 816 660
URL	www.sony.co.uk

Star Rating ★★★★★/8.4

Company	OnePro
Model	CD-RW FireWire
Speed	8x (write), 4x (rewrite), 32x (read)
Format	CD-RW
Capacity	650MB
Cartridge price	£1
Price per MB	0.2p
Interface	FireWire
Price	£279
Distributor	New Century
Telephone	020 8795 1177
URL	www.macsol.co.uk

Star Rating ★★★★★/8.2



OnePro CD-RW 650MB



LaCie CD-RW 650MB



Sony CD-RW 650MB

1.3GB on a 3.5-inch MO disc, and retain compatibility with most previous capacities. The 3.5-inch discs come in 230MB, 640MB and 1.3GB options. The larger 5.25-inch discs are available in capacities of 2.6GB and 5.2GB, and are ideal for archiving.

One issue with using removable storage for transferring data is the cost of the media. If files are constantly being shuttled from one company to another, discs get "lost" or damaged. This isn't so bad with the smaller-capacity cartridges, but, at around £70 for a Jaz disc, this can be costly. Using a CD recorder cuts costs, because blank discs now

cost less than floppies used to – so clients can keep them at little cost to you. Because they're unshielded, CDs are prone to wear and tear. If using them for long-term archiving, it's worth paying a little extra to get higher-quality scratch-resistant discs. The best way to build long-lasting archives is to use MO discs. They aren't the cheapest, but if you want to be able to access files ten years from now, MO offers the best chance of them standing the test of time.

For the semi-pro, archiving for long-term

In a way, all CD-RW drives are the same. They tend to use the same mechanisms, go at the same speed and work the same way. The EZQuest is not radically different from other models – but the speed is fantastic.

Although it's only a matter of time before other manufacturers catch up, EZQuest has timed the release of its Boa just right for this feature. The first 12x FireWire CD-RW on the market, it archives files as fast as any SCSI CD-RW. A full 650MB CD will take just a smidgen over six minutes to record. If one ignores both the time it takes to open-up Toast and for the verification process – which is optional – then this drive out-paces all other formats.

Macworld's buying advice

As with all computers and peripherals, when a new model emerges, it's a little more expensive than the slower, more established models.

In this instance, it's worth shelling-out the extra cash, because doing so will secure you a CD-RW with a longer lease of life.

The next speed-bump for CD-RWs is 16x, which is a marginal improvement on 12x. The Boa will be the fastest archiving tool around for... at least a couple of months.

Company	EZQuest
Model	Boa
Speed	12x (write), 10x (rewrite) 32x (read)
Format	CD
Capacity	650MB
Cartridge price	£1
Price per MB	0.2p
Interface	FireWire
Price	£349
Distributor	Channel Dynamics
Telephone	0870 607 0540
URL	www.ezq.com

Star Rating

★★★★/8.6



Burn-up

With its 12x-speed capability, the EZQuest Boa leads the field on speed – at least for the moment.

storage should be done with an optical format. This includes DVD-RAM, which is cost-effective. For sharing files, simply check what formats the people you are sharing with support.

Corporate solutions.

In larger offices, data-integrity is essential, and archiving needs to be reliable. Magnetic media, such as Jaz and Zip, are great for moving data, but lack the long-term integrity offered by optical formats. Optical formats can last as long as 100 years, so are ideal for important data.

Backing-up data is important for all businesses, but is something that is often neglected. In business, you can't afford to leave backing-up to chance. One piece of back-up software has dominated the Mac market for the last ten years: Retrospect from Dantz (www.dantz.com, Computers Unlimited, 020 8200 8282). It can handle every aspect of backing-up, and also allows just about any media to store data.

Many larger networks run with an NT server, but Retrospect also supports NT and older Windows software. This means that, if a network runs a mixed environment, the back-up can be on a server – whether it's a Mac or PC. This is the only solution for backing-up PCs to a Mac server.

Tapes are also an option for large companies looking to back-up entire systems as well as files. Tape capacity now tops-out

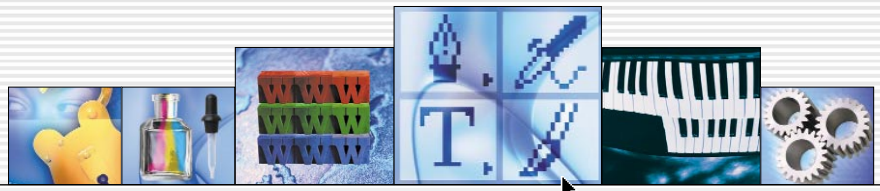
at around 50GB – the only draw-back being that, unlike the other media, tape back-up isn't simply a case of drag-&-dropping to a desktop icon: restoring data from a tape can be a hugely time-consuming and complicated matter.

As well as Retrospect there is Iomega's bundled QuikSync, which is back-up software designed to work with Iomega drives only. It's perfectly capable of personal back-ups, but lacks the power of Retrospect server back-up.

The final word

Whatever your back-up requirement, the decision isn't straightforward. Requirements should be listed in order of importance. If the need to store vast amounts of data is more important than the need to share that data, a high capacity – but unpopular format – is ideal. Conversely, if the need to share data is paramount, then compatibility is the key to your choice. If you just need to back-up text files, then why not use iDisk, or simply email them as attachments from home to work, and vice-versa.

Whatever you find to be most suitable for your needs, remember, regular back-ups are essential to save data from unforeseen problems. Hard drives are more robust than ever, but they still fail. Power surges, burglaries, fires and other disasters are always possible – but a sensible back-up solution could help ease the pain. **MW**



create : graphics

All things to all men

Macromedia FreeHand 9 is more than just an illustration package. By Olav Martin Kvern

Because of its sophisticated and powerful illustration tools, people commonly lump Macromedia FreeHand in with other drawing programs. But while the majority of FreeHand users are illustrators, the program's scope far surpasses that of other drawing packages. With tools for page layout, Web graphics, and animation, FreeHand is difficult to pigeonhole.

Version 9 expands the application's abilities even more, offering new features for each of FreeHand's personalities (see Reviews, May 2000). Some of these additions are eye-catching and take the program in a new direction, others offer solid enhancements to everyday tools and promise to transform FreeHand from a workhorse to a racehorse.

3D dynamo

One of the most notable new features in FreeHand 9 is the perspective grid. For years, graphic designers have needed a way to get simple 3D graphics into their drawing programs. For example, you may want to create a realistic depiction of a room, or show what a flat design will look like wrapped around a product box. Before FreeHand 9, you had to either turn to complicated 3D-rendering programs, such as KPT Bryce, or manually redraw the graphics. This is a tedious and time-consuming chore, and time is exactly what most designers don't have.

FreeHand's new perspective grids give a designer the power to create, and edit, simple-3D effects without breaking the bank or missing deadlines. Like traditional perspective drawing, FreeHand's perspective grids rely on the concept of vanishing point—the place where, due to quirks of visual perception, receding parallel lines meet. FreeHand simulates this illusion of distance by creating vertical and horizontal grids whose lines converge on a single, editable vanishing point.

When creating a new perspective grid, up to three vanishing points can be created, depending on the effect needed. A grid with a single vanishing point contains only a horizontal and a vertical plane receding into the distance. Select a second vanishing point to add an additional wall, producing the illusion that



you're staring at the corner of a building. The third vanishing point appears at the top of the grid, turning the building into a pyramid. Each plane's perspective can be adjusted by dragging the grid's vanishing point or outer edges—even extending them onto the pasteboard.

Once you've defined the grid, the Perspective tool can be used to snap single or grouped objects to the grids planes. FreeHand adjusts the images, shrinking or expanding them as you move them around the grid. And since the objects remain editable, you can always detach them from the perspective grid and return them to the original graphic. For instructions on using FreeHand's improved perspective grids, see the sidebar "Putting FreeHand in perspective".

A document can have multiple perspective grids, although only one can be viewed at a time. The grids can be completely hidden when unrelated areas of the page are being used.

FreeHand's perspective grids do have several limitations. For one, an imported image can't

continues page 100 ▶

Putting FreeHand in perspective

If you've used FreeHand to design a package for one of your clients, and sent the package for printing when the client asks for a perspective rendering, it's no problem. With a few clicks of the Perspective tool, you can convert it into a 3D drawing.

1 In your FreeHand document, arrange the artwork you want to convert to 3D. Group individual elements on each panel, so you have a single image for each side of the package. This keeps your designs intact when you move them to the perspective grid.



2 To set up your perspective grid, open the Define Grids dialogue box from the Perspective Grid submenu, under the View menu. For a simple box rendering showing only a front and side panel, choose two vanishing points. Set the Grid Cell Size field to a value that's an even divisor of the package's width or height – this makes aligning the objects on the perspective grid much easier.

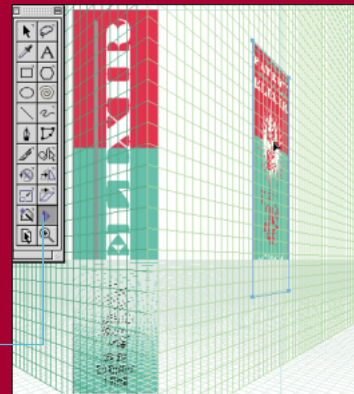


3 Next, display the perspective grid by choosing Show from the Perspective Grid submenu. If the perspective isn't right, you can adjust the grids by clicking and dragging the vanishing points – or the horizon – out onto the pasteboard.



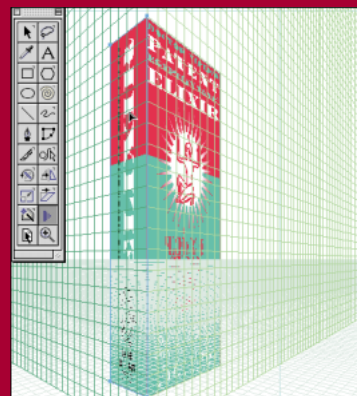
4 With the perspective grid in place, you can apply the perspective to your graphics. Use the Perspective tool (A) to select the front panel of the box. While holding down the mouse button, press the right-arrow key. This snaps the front panel of the box onto the right "wall" of the perspective grid (the plane of the grid extending from the vanishing point on the right). Likewise, pressing the left- or up-arrow key projects the object onto the left "wall" or "ceiling" plane.

TIP: Sometimes, objects attached to the grid appear reversed – to reflect an object you've attached to a grid, select the object with the Perspective tool and then press the spacebar.



5 Repeat this process for the side panel of the box. To snap the two panels together, use the Perspective tool to move the objects to the intersection of the left and right grids. As you drag, FreeHand adjusts the perspective distortion of the object. To adjust the angle of a grid without dislodging its contents, hold down the shift key as you drag the grid into a new position.

TIP: To release an object from the distortion applied by the perspective grid, select the object and choose Remove Perspective from the Perspective Grid submenu of the View menu. To release the object from the confines of the grid while maintaining its distortion, select Release With Perspective.



be attached to the perspective grid. This is a problem when using a bitmapped logo in a design. To get around this, trace the images using FreeHand 9's Autotrace tool, which incorporates a magic-wand tool for selecting continuous areas of colour. Then attach the resulting paths to the perspective grid.

Attaching an object pasted inside a clipping path also can be a headache. To add perspective

to these objects without permanently losing their paths, you must first remove them from their paths by choosing Cut Contents from the Edit menu; then apply them to the perspective grid. Once the object has the correct perspective, you can use the Release With Perspective command – located in the Perspective Grid submenu under the View menu – to detach the object from the

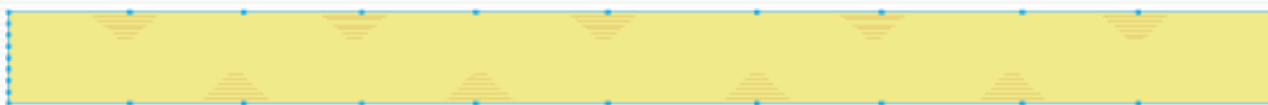
continues page 103

Opening the envelope

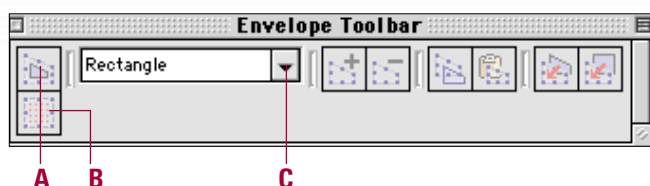
Your client asks you to create some graphics showing his name printed on ribbons, but when simulating fabric, you can't use a

flat plane. Fabric stretches and wrinkles – and so must the text. It's a perfect job for FreeHand's Envelope feature.

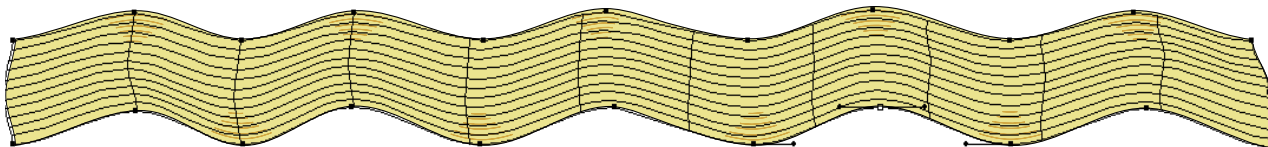
1 First create the basic design of your ribbon. Make sure the design has enough points that you can reshape it later. To distribute new points evenly around the object, open the Xtras menu and select Add Points from the Distort submenu. If you add other details to your ribbon, group the paths before applying the envelope.



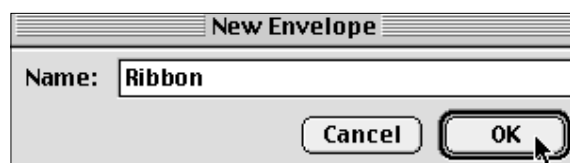
2 Open the Envelope Toolbar – found under Toolbars in the Window menu. Select your ribbon and choose the Rectangle envelope from the list of envelope presets on the Envelope Toolbar's pop-up menu (A). Click on the Create button (B) to apply the envelope. This applies a distortion grid over the ribbon. To view the grid, click on the Show Map button (C).



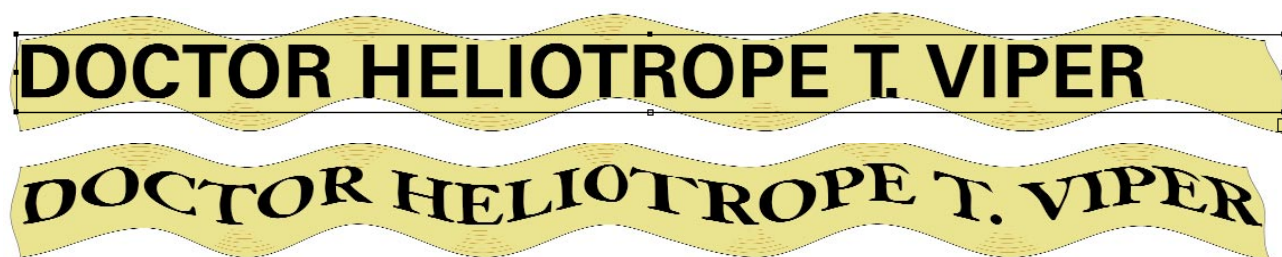
3 Before you begin reshaping the ribbon, add additional points, as you did in Step 1. This time, you're adding the points to the envelope. For precise control, make sure the envelope has the same number of points as the original object. You can now edit the envelope as you would any other path. One interesting feature of FreeHand's envelopes is that you can turn them inside out by dragging one edge over or beyond the other, creating the illusion that you've twisted or folded the object.



4 When you're done, click on the Save As Preset button in the Envelope Toolbar and name the new effect "Ribbon". You'll see the envelope at the top of the Envelope Preset pop-up menu.



5 Position a text block over the ribbon. Select your new envelope from the Envelope Preset pop-up menu and click Apply. The text appears to curve around the ribbon.



perspective grid while retaining the illusion of perspective. You can then paste the object back inside its original path. The perspective grid has no effect on tiled fills, custom fills, or PostScript fills. If you use these, you'll have to find a another solution.

Like the perspective grid, FreeHand's live-envelope feature aims to make manipulating images a quick and easy process. An envelope is a method of distorting an object – or a group

of objects – so that it appears bent or stretched in the plane on which it rests. This creates an effect similar to a funhouse mirror. When applying an envelope, FreeHand creates an envelope grid – a kind of bounding box you can manipulate using standard points and control handles. As you stretch and distort the grid, the shape of the underlying object changes as well. For tips on using the envelopes tool, see the

continues page 104 ➤

above sidebar “Opening the envelope”. The envelope feature itself isn’t the big news in FreeHand 9; previous releases of the program included a primitive version. The main difference is that now, envelopes are live, and can be manipulated within the work space. In previous versions, applying an envelope changed the shape of the original path. This meant that the only way to adjust the original object was to start over, or undo all of the envelope changes manually – along with any other changes you’d made in the meantime.

In FreeHand 9, applying an envelope changes only the appearance of the path, leaving the original object fully editable. If you decide an hour later that you are unhappy with the envelope, you can return to the original shape of the path or change the settings to create a different effect. Even text remains editable after an envelope has been applied to it. Like perspective grids, however, live envelopes don’t work with bitmapped images.

In addition to saving time and headaches, FreeHand’s live envelope feature opens the door to a number of interesting creative possibilities – especially once you throw in the program’s improved Flash export capabilities. For example, if you want to create a Web animation in which text subtly changes shape, you can export successive frames as you adjust the text’s envelope.

Mapped out

Because of its powerful productivity features, such as graphic find-&-replace and intelligent text-handling tools, FreeHand is the program of choice for many cartographers and technical illustrators. For this group, one new feature that stands out is the addition of symbols.

Many Macromedia customers are already familiar with symbols – which are standard features in other Macromedia programs, such as Fireworks and Director. Symbols are shapes you can use over and over again in publications. They might be icons for state capitals in a map, or for a specific nut or bolt in a mechanical assembly diagram. You could create duplicate graphics by copying-&-pasting, but symbols have two advantages over this.

First, by turning repeated objects into symbols, you can place an unlimited number of instances of the symbols in the document, without significantly adding to its size. This is because instances aren’t duplicates of the symbol, but are references to the original. So each instance you use saves space in your FreeHand document, and on your hard drive.

Second, symbols save time. When you change a symbol, FreeHand updates all instances of it in the publication. This is faster than updating repeated graphics using FreeHand’s graphic find-&-replace feature – as great as that is – and it’s much faster than updating each graphic by hand.

The key to working with symbols in FreeHand is the Symbols palette, located in the Panels submenu of the Window menu (see the screen shot “Slim down” left).

Creating a symbol is as easy as dragging the object into the list area of the Symbols palette and dropping it. Then, to insert an instance of the symbol into a document, drag it out of the Symbols palette and drop it on the page. You can transform an instance just as you would any other object – moving, rotating, skewing, or reflecting it. These changes affect only the selected instance. You can also break the link between an instance and its symbol completely, converting the instance to a normal FreeHand object.

To update a symbol, and all of the instances based on it, simply drag a new object over the original item in the Symbols palette. You can even share your symbols with other designers, or transfer them to another FreeHand document, by exporting them into a symbol library. To do this, choose Export from the Symbols palette’s pop-up menu.

In addition to utilizing its illustration tools, many designers also rely on FreeHand as a page-layout program – especially for short jobs such as brochures. Unlike other drawing programs – Adobe Illustrator, for example – FreeHand can create documents containing more than one page, and you can give the pages in a single document any size and orientation. The only limit is the size of the pasteboard – a healthy 222-x-222 inches.

In the past, it was hard to ensure that pages ended up in the correct order and location when you arranged them in the Document Inspector’s tiny Page Preview window. The introduction of the Page tool changes all that. This tool allows you to move, flip, and rotate pages directly, rather than dragging a tiny thumbnail around in the Document Inspector. You can also use the Page tool to add, duplicate, remove, and resize pages quickly.

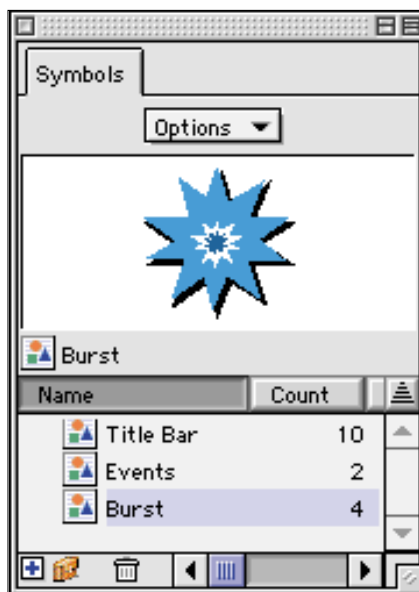
Handling pages

When a page is selected with the Page tool, handles appear around the edges of the page, allowing you to manipulate it like any other object. To resize a page, for example, simply drag one of the corner handles. Or, if you want to delete the page altogether, select the page and press the delete key.

To arrange multiple pages on the pasteboard, choose Fit All from the View menu. FreeHand zooms out to a view that displays all the pages in the publication. This makes it very easy to position pages relative to each other.

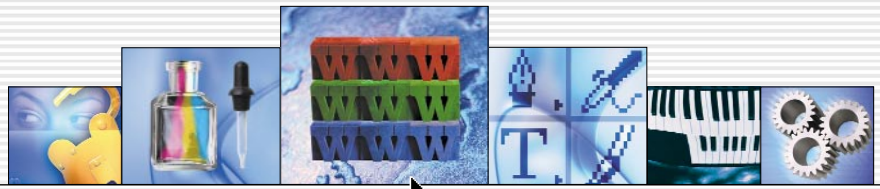
For greater accuracy in positioning pages on the pasteboard, just activate the Snap To Grid feature (in the View menu), which forces the page to snap to increments of the grid. To view the grid, choose Show from the Grid submenu of the View menu, to edit the spacing of the grid, choose Edit. This makes leaving an exact distance between pages easier.

FreeHand 9 is a different program for every user. But whether you use FreeHand for creating Web animations or designing vacation brochures, chances are you’ll find a tool in version 9 that can save both time and trouble. Check out *Macworld’s* May cover CD. **MW**



Slim down

By storing repetitive graphics in the Symbols palette, you can cut down on the document’s file size, saving time.



create : web

Don't be short-sited

If a Web site doesn't cater for the visually impaired, it's losing out. By Jim Heid

For people with visual impairments, the Internet has the potential to broaden horizons and open doors to independence. Using new surfing technology, they can read newspapers and magazines without waiting days – or weeks – for Braille or audio versions. They can shop for music, groceries, and airline tickets. They can learn, bank, work, or just browse.

That's the Internet's potential. The reality is that many Web sites are cumbersome or impossible for blind users to navigate. Banner advertisements, multi-column layouts, poorly phrased hyperlinks, and unlabelled graphics can turn an elegant-looking site into a navigational nightmare.

Impacting access

Here's a look at the issues and the answers behind Internet accessibility. This article focuses mainly on the needs of users with severe-visual impairments, because your design impacts their experience most. For an overview of other accessibility issues, see the our online sidebar, "Designing for users with other impairments", at www.macworld.co.uk/create.

Addressing the needs of all disabled users isn't just a good cause – it's also good business. There are an estimated 6.4 million disabled people of working age in the UK – this represents about 18 per cent of people of working age – all with money to spend. Open your site to this group, and you'll not only expand your audience – you may also win some extremely loyal customers.

Adding accessibility features will also help you prepare for the coming stampede of Web-enabled devices. Web-capable handheld computers, such as the Palm VII, are already available, and soon you'll be surfing from devices as diverse as mobile phones and car dashboards. All of these devices lack the large displays needed to show off the fancy graphics and complicated layouts on today's sites. By making your site navigable without graphics, you benefit sighted and blind customers alike.

Just how do people with visual impairments access the Web? Most of them rely on screen-reader software. Screen readers use voice



synthesis to speak the contents of windows, menus, and other interface elements. The most popular screen reader is Henter-Joyce's £550 (all prices exclude VAT) Jaws for Windows (Sight and Sound Technology, 01604 798 070). For the Mac, Alva Access Group (Professional Vision Services, 01462 420 751) offers the £495 outSpoken.



See the Macworld cover CD for a demo of outSpoken

Visually speaking

Screen readers help visually-impaired users navigate a site by interpreting HTML tags, particularly those dealing with hyperlinks, Web forms, and graphics. Take the following HTML code, for example: `Go to home page`. Instead of reading out the entire link, the screen reader says: "Link: go to home page." Blind users can then press the tab key to jump from one link to the next. To get an idea of what a blind person experiences on both an accessible and a not-so-accessible site, see "The sound of surfing".

continues page 108

The sound of surfing

Listening to Web sites through a screen reader, such as Jaws, is the best way to appreciate the challenges and issues that lie behind Web-site accessibility. Here are samples of what you'd hear on a visit to the high-traffic Web sites for the *New York Times* (www.nytimes.com) and the US public-broadcasting giant WGBH (www.wgbh.org).



Hard times at the Times

The *New York Times* on the Web immediately gets off on the wrong foot. The ad graphic in the upper left corner (A) has no alt text, so Jaws reads its link aloud – and because sites serve most ads dynamically from databases, these links are incomprehensible. In this instance, the Jaws surfing experience begins as follows: “Page has 131 links. Link graphic hst one-dash-side-dot-gif slash six-six-hundred-ninety-six-d-six. . . .” This numerological gibberish continues for several more seconds. Simply adding alt=“Advertisement” to the image tag would have eliminated that agony.

Things improve only slightly from here. The site's designers also fail to specify alt text for the left-hand image map (B), so Jaws reads the links thus: “Image map link slash index. Image map link front slash index. Image map link day slash world. Image map link day slash national.” And on and on.

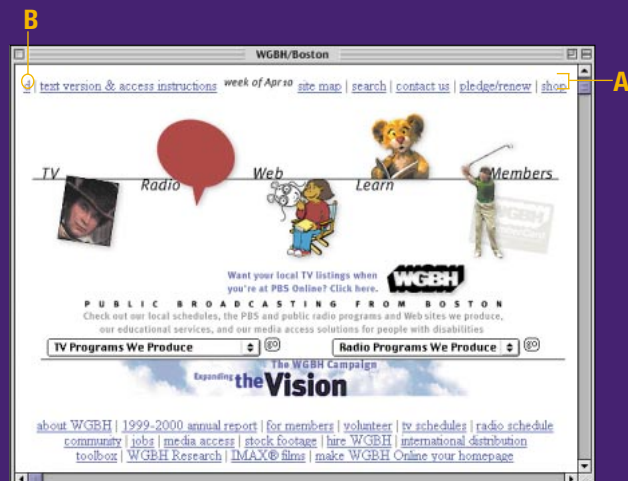
Finally, the links for each of the main front-page articles (C) read simply “Go to article”. A blind user surfing from link to link won't know which article each link designates.

Smooth talker

The Web site for WGBH (a local US media organization) in Boston does it right – no surprise, given that WGBH is headquarters for the National Center for Accessible Media.

The first thing a Jaws user hears is “Page contains 39 links” – less overwhelming than The New York Times on the Web's 131 links. From there we hear “Link: D vertical bar. Link: text version and access instructions. Graphic: This week.” Thanks to an alt attribute, Jaws doesn't read the whole file name.” “Link: site map. . . .”

You'll notice that the text links at the very top of the page (A) enable a blind user to jump quickly to a text-only version of the site and get instructions about the site's structure and accessibility features. The d link (B) leads to a page containing a description of the home page graphics – how many there are, what they look like, and so on – making the site a bit more inclusive.



Does making your site accessible mean eliminating glitzy graphics, rollovers, multimedia, Java applets, and all the other eye candy that spices up – and sometimes clutters – today's sites? Absolutely not. Indeed, sighted users won't even notice most accessibility tricks.

The following tips are easy to implement, even on existing sites – and many also improve the surfing experience for sighted users.

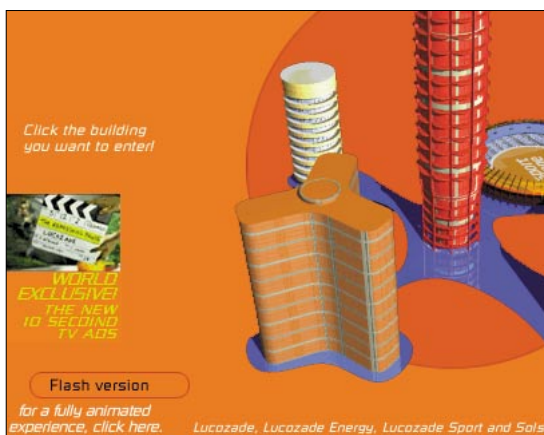
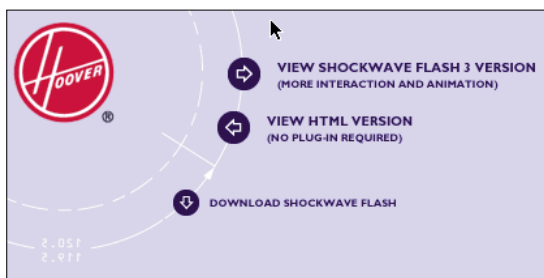
Label graphics It's no news flash that graphics dominate today's sites. What with buttons, logos, and artwork, a single page can include many images – many of them essential for navigation. By default, when a screen reader encounters one of these graphics, it reads out the file name – often an unhelpful string of letters.

You can tell screen readers to ignore these file names and provide valuable context for your graphics. Use the `<image>` tag's alt attribute to give a brief description of the images – for example, XYZ Corporation Logo for a company logo or Link to the home page for a graphical button. If, like many designers, you rely on transparent GIFs to control space in a page's layout, just use blank spaces for their alt descriptions – many screen readers will skip them entirely.

Concise, meaningful alt text is one of the most important accessibility features you can add. It will also improve your site for the many sighted-Web users, who speed-up surfing by setting their browsers to skip images.

Label your image maps Image maps are

continues page 111



Gone in a Flash

Both Hoover.co.uk and Locozade.co.uk offer Flash and non-Flash versions of their sites, making it easier for visually impaired people to navigate.

common navigation devices that divide a single image into several different links. There are two types of image maps. The first is server-side maps, which rely on software that runs on the Web server to interpret where a user clicked. The second is client-side maps, which use HTML tags to denote each of the map's clickable hot-spots directly within the Web page. Some screen readers can interpret only client-side maps.

In addition to providing client-side maps, it's essential that you use the alt attribute to create an informative text description for each clickable region — especially those used for navigation. Far too many sites — including Yahoo, Amazon, and The New York Times on the Web — forget this step, rendering their maps useless to a visually-impaired user.

Write meaningful links

Before reciting all the text on a page, some screen readers recite just the hyperlinks, enabling a user to jump elsewhere without having to listen to every word.

But if you use the all-too-common

click here for your hyperlinks, the user hears just “click here, click here, click here”. The solution is to write meaningful links that provide some context, such as Learn about our products — read aloud your pages' hyperlinks as a test. Is the site still navigable?

Provide text-based navigation If you use image maps or graphics for navigation, also provide a text-based navigation scheme, such as a row of links at the top or bottom of each Web page. Place a vertical bar (|) between links to set them apart. This helps some screen readers distinguish them.

A text-based site map, also a great idea, enables sighted and blind users alike to jump quickly to sections of interest.

Web forms, a prerequisite for almost every online shopping site, present their own accessibility issues because they rely on additional user-interface elements — such as text boxes for typed information, pop-up menus for choosing options, and Submit buttons for sending the form's contents. The way you create and position these elements greatly influences how well a screen reader can interpret them.

Label form elements properly To help visually-impaired users navigate your forms, you need to provide a text label for every form element. For example, instead of just leaving four empty fields for a user's address, specify which part of the address to enter in each box. And, always position the labels either directly above or directly to the left of the elements they describe. This way, screen readers can state additional information about the element — for example, “edit: street address”.

If you use an image for your form's Submit button, don't forget to specify alt text. Otherwise, a screen reader will read the image as “button” — and if the page has multiple buttons, a blind user won't know which one does what.

Put the most likely choice first When creating pop-up menus for navigation, or for choosing values such as a country, consider creating a hierarchy, with the most likely choice as the default value and others below it in descending order of likelihood. This decreases the amount of scrolling users must do to get to the desired option.

You may want to use the following techniques when starting a new site or redesigning an existing one. The design choices you make at this phase have a huge impact on your site's accessibility — and on its adaptability for other types of browsing devices, such as mobile phones.

Simplify tables Most designers use HTML tables to position items on a Web page. As a result, text doesn't always read logically across the screen. Jaws is smart enough to deconstruct tables properly, but most screen readers aren't — yielding nonsensical results.

If you use tables for layout — and let's face it, they remain the most browser-compatible layout technique — avoid nesting them. Also, consider providing non-tabular versions of the most important pages on your site. A simplified layout speeds up a site for everybody.

Don't count on Flash Blind users can't access multimedia elements, such as Flash movies. Therefore, when using Flash for navigation, or to present content, provide a non-Flash version of a site to make it accessible. See the screenshots (top left) for examples of sites that offer Flash and non-Flash navigation.

Those without vision impairments might have difficulty pinpointing accessibility trouble spots. You can use the free trial versions of both Jaws and outSpoken, available from the companies' Web sites, to check designs for accessibility. The trial versions are fully functional, but work for only 20 to 40 minutes before requiring a restart. You can test Jaws, the most popular screen reader, on a Mac using Connectix's (www.connectix.com) £149 Virtual PC 3.0 (Computers Unlimited, 020 8358 5857).

Make it known

If you've added accessibility features to your site, post a notice on the Usenet newsgroup alt.comp.blind-users. Invite its members to visit your site and provide feedback. You can also submit your Web site to www.cast.org/bobby, which tests it and sends a report on its accessibility.

As more stores and services move onto the Web, accessibility will become an increasingly heated issue. A little preparation and forethought now, could save you serious headaches later and win valuable new customers.

MW

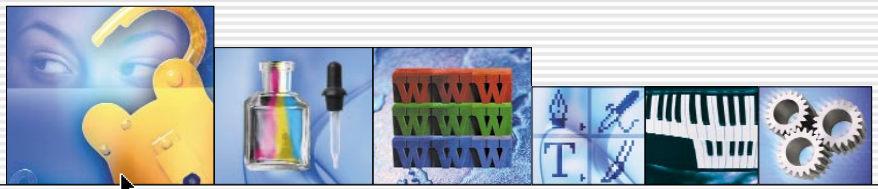
Accessibility bookmarks

On these Web sites, you can learn more about accessibility issues, techniques, and tools. www.w3.org/wai The World Wide Web Consortium's Web Accessibility Initiative is the horse's mouth for all Internet issues related to accessibility.

www.cast.org The Center for Applied Special Technology (CAST) is a great resource for Web developers. CAST's Bobby is a Web-based tool that will analyze any page and report on its accessibility.

www.ibm.com/able/ IBM's Web Accessibility Checklist is a succinct guide to accessibility techniques.

www.webable.com WebAble contains a database of hundreds of accessibility resources.



secrets

Net navigation nous

Use Internet Explorer 5's Web-page navigation tools to speed-up browsing. By Ted Landau

By definition, browsing the Web means never staying in one place for long. The people behind Microsoft's Internet Explorer (IE) 5 recognize that if you're not jumping from one page to the next, you're racing from one end of the page to the other. That's why IE 5 comes packed with loads of ways to make Web navigation easier.

Want to go directly to the bottom of a long Web page? Just press the **⌘** key and the down-arrow key, and you're there. If the page doesn't have a "back to the top" link, **⌘** and the up arrow take you right back.

For the ultimate in page navigation, press **⌘** and then click and hold down your mouse button. The cursor icon will turn into a hand. Now, as you move the mouse, the page moves as well.

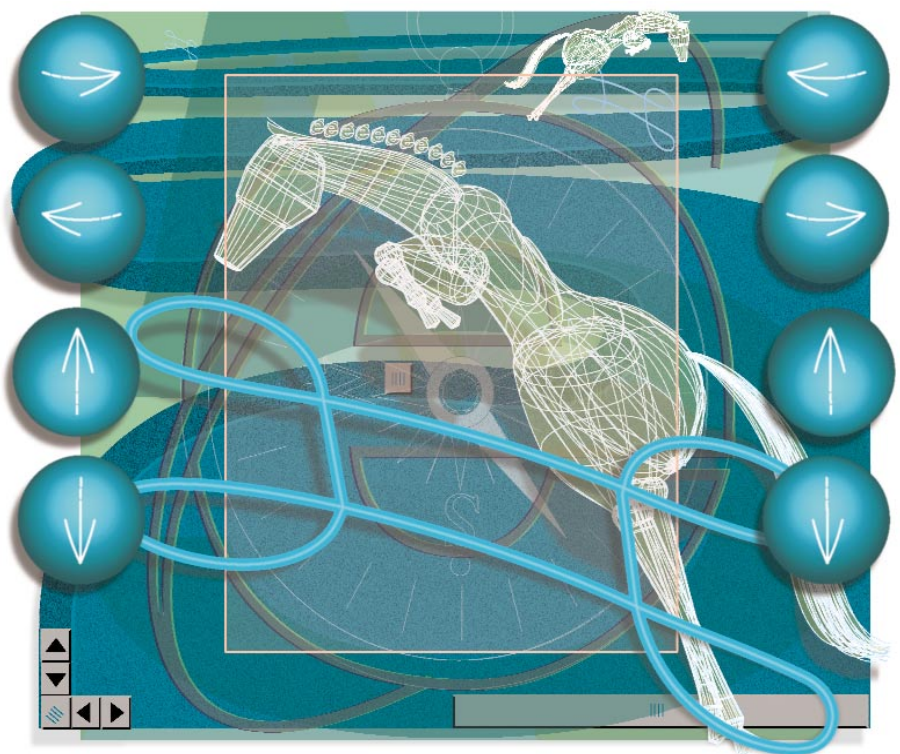
Take a step back

To move backward or forward through previously visited pages, press **⌘** in combination with the left- or right- arrow key. Or, you can use delete and shift-delete — they work the same way.

If you have several windows open, use IE 5's Cycle Through Windows command — **⌘**-tilde (~) — to bring the right window to the front.

Suppose you have a long URL (such as www.macgizmo.com/support/faqs/problems/refunds.html) in IE's Address box. The information you need isn't on this page, so you decide to move up a few levels in the Web site's hierarchy (to, say, www.macgizmo.com/support) in the hope that this page will contain a link to what you're seeking. With IE 5, you can quickly jump to a higher level without ever touching your mouse.

First, if it isn't already selected, press option-tab to highlight the URL in the Address box, and then press the right-arrow key once to bring your cursor to the end of the URL. Now, while holding down the control key, press the left arrow. Each time you do this, you'll highlight another segment of the URL. When you've highlighted the portion you want to eradicate, press delete. Finally, press return and you'll be whisked to the selected page.



If you're using a mouse, there's an even better alternative: press **⌘** and click on the title text in the header of any IE window — you'll get a pop-up menu that lists all the URLs for hierarchical levels back to the home page (see the screen shot "Move on up"). Select a URL from the list to go directly to that page.

Trying to find a particular link on a page that's filled with links? No problem. Just click anywhere on the page and start pressing the tab key, and IE will cycle through every link on the page. If a Web page consists of a form filled with text boxes, you can use option-tab to jump from box to box. The browser's Keyboard Accessibility Preferences setting lets you toggle between functions that use the tab key and those that use option-tab. For the scoop on another new option in IE's Preferences, see the boxout "Make a new resolution".

You can keep a collection of frequently

continues page 116 ➤

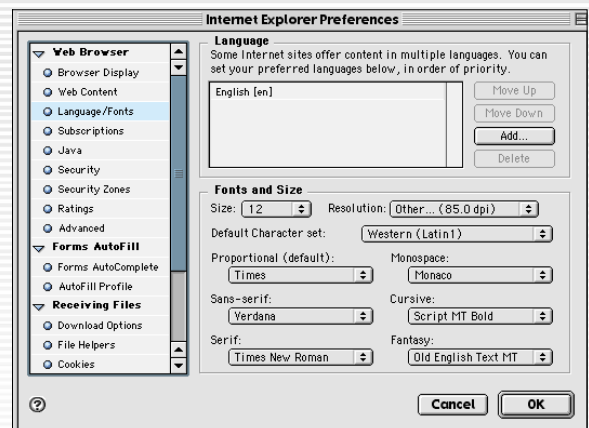
Make a new resolution

The Fonts and Size section of Internet Explorer 5's Preferences dialogue box contains another new feature that users will appreciate. Figuring out exactly what the Resolution option does and why it's useful can be a bit tricky though, so here's the scoop.

Many Web designers use Font Face tags to assign text size on a relative scale, indicated by numbers from one through to seven, with three being the default. Previous versions of IE for the Mac had a default of 12-point type, which meant that text specified by the designer as FONT FACE=3 showed up in the user's browser as 12-point type by default. However, because the Windows browser default has been 16 point, Web-page type that looks fine on Windows displays may appear too small on Mac screens.

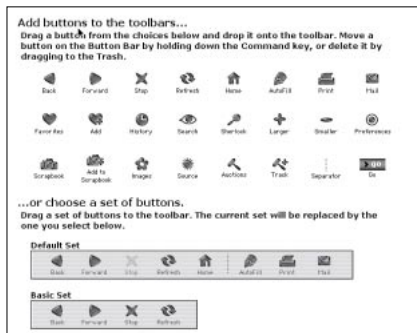
The default size for the Macintosh version of IE 5 is now also 16 point. You may like the larger default; if not, go to the Size pop-up menu in Preferences to change it. If you go back to the 12-point default, but occasionally want to increase the type size of a Web page, you can do so without altering the Size setting in Preferences: just press **⌘-plus (+)** for larger type or **⌘-minus (-)** for smaller type.

For the best text appearance overall, Microsoft recommends setting Internet Explorer's Resolution option to match the resolution of your display. Most monitors today stray from the Mac's traditional 72dpi resolutions, but dpi resolutions in the 80s are now common. Use the Resolution setting's Other option to determine which resolution you should use; changing to the recommended setting should make the text size display as the Web designer intended. The setting will mainly affect text to which the designer has assigned an absolute, rather than a relative, font size.



The right look

Select the browser's default font size and resolution from IE 5's Fonts and Size Preferences.



Custom made

IE 5's Customize Toolbar feature makes adding buttons to the Toolbar easy – especially if you follow the simple instructions.

visited sites in IE's Favorites bar, located just below the Address bar (see left). To add a site to the list, locate any text – on any Web page – that contains the desired link and drag the text to the Favorites bar. To add the current URL in the Address box, drag the @ symbol to the left of the address. To rearrange the order of the links, just drag a URL where you want it to go. To delete an item, control-click on it and select Delete from the contextual menu that appears.

Button bar boost

The Button bar – which displays icons or text links for actions such as Back, Forward, and Print – now lets you arrange and delete items. You can also add items here by selecting Customize Toolbars from the View menu.

If IE's Toolbars are taking up too much of the screen, hide them using Collapse Toolbars from the View menu – or by pressing **⌘-B**. With the Toolbars collapsed, you can still enter a URL in the Address box: simply press **⌘-L**, and the box will reappear; press escape, and it's gone again.

Start typing a URL in IE 5's Address box. As you type, the program generates a menu displaying Web addresses that match what you have typed so far – updated with each letter you add. At any point, you can slide your



Easy addition

To add a site to the Favorites menu, just drag the URL across to it from the address window at the top of the screen.

cursor down the menu and select a URL; there's no need to finish typing it. Internet Explorer 4.5 has a similar feature, but it just gives you its single best guess, rather than a menu of them. If for some reason this feature doesn't work, make sure you haven't disabled Address AutoComplete in Preferences.

If you want to save just a paragraph of text from a Web page – for example, a single news item on a crowded page – you can highlight the portion of text you want, and drag it to the Finder's desktop. With previous versions of Internet Explorer, you could only save the entire page or copy and paste the selection. With IE 5, this method also saves the original formatting – font, style, size, and colour. You can even drag a selection directly into another application to use in a document of your own.

MW

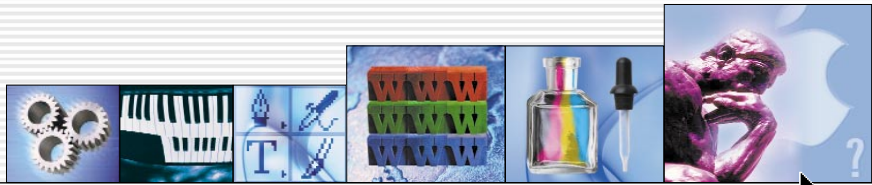


Move on up

Go directly to a higher level of a Web address by using Internet Explorer's Address bar pop-up menu.



Macworld carries the latest version of Internet Explorer on its cover CD every month.



Q&A/tips

- Disk-image frenzy • iMovie work-around • Browser help

Q&A/tips

Handy Mac tips and readers' questions answered. By Ted Landau

iMovie cut-aways

TIP A common complaint about iMovie 1.x is that you can't dub one clip's sound over another – for instance, when cutting away during an interview – but there is a work around. First, export the desired clip to QuickTime Pro – it's worth paying the paltry £20 – and save it as an .aiff file. Then, with iMovie closed, drop the file into the Sound Effects folder in the iMovie Resources folder. When iMovie is opened, the file will appear in the Sounds Palette. Drag the file onto the timeline and position it at exactly the same start point as the original clip. Next, switch the sound off on the video clip, and edit it where you want to put your cut-away. As long as you put in exactly the same amount of video as you take out, the sound will be in synch with the pictures.

David Hunt

Restoring iMac applications

TIP If you want to restore an application to your iMac, there's no need to run the installer found on the iMac's Software Restore CD. Instead, open the CD's Configurations folder and double-click on the iMac HD.img file. Disk Copy will mount this image file as a separate volume. From there just drag the applications to your hard drive.

Remember to copy any support files you might need. For example, if you want to restore AppleWorks 5, you should copy the AppleWorks folder as well as the Claris folder found in the image's System Folder, and the AppleWorks folder inside the Application Support folder inside this same System Folder. When dragging these additional folders to the hard drive's System Folder, put them in the right place – the Claris folder at the root level of the System Folder, and the AppleWorks folder in its Application Support folder.

Speedier disk-images

Q I like the idea of using self-mounting disk images in place of floppy disks and installation CDs (Tips, May 2000), but

how can I make them skip the time-consuming Checksum Verification process, which checks for a corrupt disk image?

Marcus Darden

A If you're confident that your disk image isn't corrupt, skipping the verification process is a good idea – there're a couple of ways to do it. First, there's the free method. Turn off the Disk Copy utility's Verify Checksum option, or turn on the Except DiskScripts/DiskSets option (Edit-Preferences). Then, instead of double-clicking a self-mounting disk-image file to mount it, drag it to the Disk Copy application's icon – it will skip the verification process.

This approach has drawbacks. It takes extra time to open Disk Copy, and still more time to quit it manually – unless you're willing to leave it open and occupying RAM. Moreover, this trick doesn't work with the combination of Disk Copy 6.3.x and the type of self-mounting disk images that display a licensing agreement before mounting the disk image. Most Apple-distributed images are of this type. For the fastest mounting, there's a second method: create self-mounting disk images using the £29 ShrinkWrap (Computers Unlimited, 020 8358 5857) program from Aladdin Systems (www.aladdinsys.com). ShrinkWrap's self-mounting disk images skip checksum verification. The program can also convert existing Disk Copy files into ShrinkWrap files, which skip the licensing agreement and verification steps.

View help pages in your browser

TIP The benefits of opening Mac OS help pages in your Web browser instead of in the usual Apple Help Viewer program are no surprise (they're revealed in Secrets, April 2000). But if you already have a page open in Help Viewer – which you access from the Finder's Help menu – you have to retrace your steps painstakingly from the starting help page to get to exactly the same page in your browser. The AppleScript shown in "Get help from your browser" alleviates the tedium.

To make the script available from a menu while

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iBook batteries

The iBook carries only a single battery. But if you hope to maintain the correct time on the iBook's system clock, you should either swap batteries with the AC power plugged in, or work quickly when swapping to a fresh battery. The iBook contains a capacitor that maintains the system clock for around 10 minutes once the iBook's battery is removed. Should you drain this capacitor, you will have to reset the iBook's clock, though contents of parameter RAM (PRAM) – which includes many of your Mac's system settings – are retained.

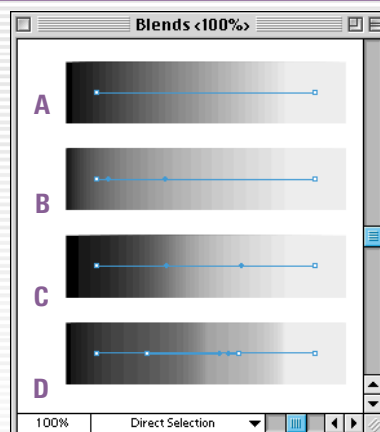
• Compress email files • Round-off in Excel

Make better blends in Illustrator 8.0

TIP The Blend tool and Make Blend command in Illustrator 8 normally produce a uniform progression from one object to another. Colour and shape change at a constant rate over the distance between the objects (A). Derek Mah discovered that it's easy to control a blend's rate of change by manipulating the direction points of its spine. Illustrator generates the spine – an invisible, centred path – when you create a blend. You can edit the spine just as you would any other Illustrator path.

To see the spine, either switch to Artwork mode (⌘-Y) or click the centre of the blend with the Direct Selection tool. Then select the Convert Direction Point tool and drag out a direction point control handle at each end of the spine (B). Move these control handles along the spine to adjust its rate of change (C). This is similar to how you would control blend speed in a gradient mesh.

If you impose extreme acceleration or deceleration on the blend, you can prevent visible banding by increasing the number of blend steps in the Blend Options dialogue box (choose Object-Blend Options).

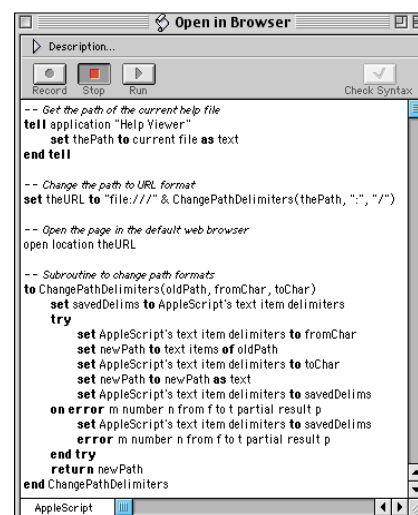


You can vary the blend's acceleration and deceleration even more by adding intermediate anchor points along the spine with the Add Anchor Point tool (D). These points divide the blend into segments you can control individually, by dragging their direction-point control handles. However, the intermediate points don't provide control over the position of particular blend steps. For example, a point added between the spine endpoints does not designate the location of the halfway step in the blend progression.

you're using the Help Viewer program, install the OSA Menu software from the CD Extras folder on the Mac OS installation CD. Then enter the script in the Script Editor. When you save the script, set the Format option to Compiled Script and put the file in a folder called Help Viewer Scripts inside the Scripts folder in the System Folder.

Neil Mayhew

If you don't want to install OSA Menu, you can put the script in the Apple menu. In this case, save the script – in Script Editor's Save dialogue box – with the Format option set to Classic Applet and the Never Show Start-up Screen option on. Finally, put the script file in the Apple Menu Items folder.



Get help from your browser

This AppleScript uses your default Web browser to open whichever help page you have currently displayed in the Apple Help Viewer program. The script works correctly in Mac OS 8.6 through 9.

Rounding numbers in Excel

TIP To round positive and negative numbers to a given number of significant figures in Excel, use the following formula: IF(cell<>0,ROUND(cell,(n-1)-INT(LOG(ABS(cell))))),0). Replace cell/ with the actual cell address and n with the number of significant digits.

Howard Fairman

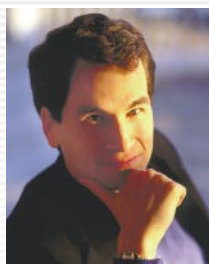
Speed-up Outlook Express

TIP If you've been using Microsoft's Outlook Express for a year, and have built up a huge number of emails, your emails may be taking up loads of space. To solve this, launch Outlook Express with option (alt) held down. You will then be prompted with "Would you like to compact the database?", choose no, then "Would you like to complex rebuild the database?", choose yes. Now Outlook Express should feel like new.

Edward Cooper

Macworld's deputy editor David Fanning answers readers' questions and selects reader-submitted tips for this column. Send your question or tip (include your address and phone number) to David Fanning, Q&A, Macworld, 99 Gray's Inn Road, London WC1X 8UT.

You can also send mail electronically, marked Q&A in the subject line, to qanda@macworld.co.uk. We pay £25 for each tip published here. We cannot make personal replies, so please do not include a stamped-addressed envelope.



DAVID POGUE is the author of *iMac for Dummies* (IDG Books Worldwide, 1998) and the *Great Macintosh Easter Egg Hunt* (Berkely Books 1998). He also wrote *Macs for Dummies*, fifth edition, updated for Mac OS 8, *The Weird Wide Web* (IDG Books Worldwide, 1997) and *The Microsloth Joke Book* (Berkeley, 1997). His most recent books are *Mac OS 9: The Missing Manual* and *iMovie: The Missing Manual* (both Pogue Press, 2000).

Split personality

Earlier this year, US district court judge Thomas Penfield Jackson made worldwide headlines when he proposed breaking up Microsoft into two smaller companies. "Microsoft would do the world a lot more good if its Windows division weren't in bed with its applications division," he said at the time.

This month, warming to his new-found celebrity, judge Jackson is back in the spotlight – with even more proposals. "Clearly, my Microsoft action was a big hit with the American public," he told *Macworld* in an exclusive, completely fabricated, interview. "I was on *Time*'s 'Digital 50' list, I made front-page headlines, I got fan mail from people I'd never even met. But when the excitement started to die down, I got to thinking: What can I do for an encore?"

Plenty, as it turns out. Judge Jackson recently gave *Macworld* a sneak peek at documents he plans to file with the US Department of Justice. These are the split-ups Jackson thinks could benefit humanity.

Apple "How many times have I heard Mac fans say, 'I love the Macintosh – I just don't care for the company that makes it'?" asked Jackson. "Well, the time has come to do something about it." Under the judge's proposal, Apple would split into two entities: Macintosh Corporation, which would make Mac computers, and Apple Ego, which would continue to maintain the air of superiority and smugness that has pervaded the company for years.

"It makes sense," Gartner Group analyst Fred Fictionale commented. "The Mac company would become a beloved corporation, as friendly to customers as Marks & Spencer and as supportive of programmers as Palm. Apple Ego, on the other hand, could pursue its arrogance without risking negative public-relations fallout. It could continue to make developers pay for the privilege of writing Mac software, send legal threats to Web sites that give free airplay to Apple TV ads, and charge its customers 50p per call for technical help. And Apple Ego could take over the manufacture and promotion of the ultimate symbol of the company's we-know-better-than-our-customers attitude: the hockey-puck mouse."

Bill Gates "Let's face it," Judge Jackson said, "Bill Gates may be the smartest programmer, the best businessman, and the richest human in the world.

But they really shouldn't let him out in public. Every time he opens his mouth, he gets his company in trouble. And as for his attire – let's not even go there. Did you see his portrait on the cover of *New York Times Magazine*? Icky! The guy didn't even shave!"

After discarding an early plan to merely separate Gates from his sweaters, Jackson settled on a proposal to divide Gates's duties. He could continue to scheme, plot, and manipulate the world – as long as he remained within 50 feet of the Microsoft campus in Redmond, Washington.

Another Microsoft employee would assume the role of public ambassador. This arrangement, analysts say, would do wonders for Microsoft's credibility: a well-groomed person dressed in actual business clothes is less likely to revolt TV viewers.

Computer magazines "Those little subscription postcards that fall out onto the rug make absolutely no sense," a crabby judge Jackson said. "We're already subscribers, for God's sake – what's the point of littering our carpets with come-ons?" Jackson will recommend to Janet Reno that computer magazines be prohibited from incorporating such "blow-in" cards. Instead, at the end of every year, each subscriber will receive a separate, neatly bundled packet of 500 subscription cards that he or she can discard or recycle in one swift gesture.

Spammers "It may surprise many Internet citizens," noted Judge Jackson, "but according to my findings of fact, people who send junk email are actually human. And yet, they have no regard for other human life and no sense of self-loathing." Clearly, the judge pointed out, these people's brains are defective.

Their bodies, however, are fully functional, capable of turning on a computer, plugging in a modem, and typing MAKE \$150K SALTING CRACKERS AT HOME! By surgically removing their brains, said Jackson, one could annul this unfortunate pairing of warped mind with healthy body.

At a secret briefing, a *Macworld* staffer asked: "But wouldn't brain removal pretty much kill these people?" Judge Jackson had a quick answer: "The consequences aren't my concern. As in the Microsoft case, my job is just to get the ball rolling."

His Honour then rose from the table. "That's going to have to do it," he said. "I've gotta split."

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